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2500	4500	5855	7450
2600	4510	5875	7487.5
2720	4525	6000	7500
2935	4600	6021	7506
3023.5	4695	6100	7537
3030	4742.5	6106	7706.66
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3175	4780	6173.333	7777.777
3184	4815	6175	7825
3255	4816	6225	7890
3270	4840	6235	7920
3280	4870	6240	7930
3305	4875	6350	8007
3320	4955	6406	8009
3432.5	5000	6410	8010
3450	5020	6440	8012
3460	5095	6450	8014
3467	5166	6473.33	8015
3515	5180	6497	8075
3522	5205	6506	8171
3532.5	5205	6522	8175
3560	5385	6540	8220
3630	5435	6550	8290
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EDITORIAL**Television Interference and the Amateur Service**

Prior to the introduction of the Australian television service the W.I.A. envisaged the probability of interference to viewers by Amateur transmitters, other frequency users and electrical apparatus generally. With this in mind it sought the opportunity to submit information to the Royal Commission on Television.

In actual fact the number of cases of interference by Amateur transmissions have, until recent date, been very few. However, over the past few months there has been quite an increase in t.v. interference, the majority of cases being due to 50 Mc. transmissions and also from v.h.f. and h.f. transmissions in fringe areas. The problem is essentially one of public relations—the manner in which the Amateur approaches the problem and the way in which the viewer receives his efforts to eliminate the interference.

There are two areas of interference—(a) areas essentially serviced by the existing television transmitters, and (b) areas which we call fringe areas not specifically serviced by the existing television transmitters. There are many forms of interference, of course, but our own transmissions which interfere with t.v. is our particular problem. As far as we are concerned our transmitters must be t.v. proofed, free from harmonic radiation and generally constructed and operated in such a manner that radiation of other than the desired frequency signal is not possible. That's fair enough and is in line with the regu-

lations governing the operation of Amateur transmitting stations.

But, unfortunately, the problem does not end there in actual practice, for under certain conditions interference is occurring—particularly around 50 Mc.—which is attributable to lack of selectivity in the t.v. receiver "front ends" rather than by reason of incorrect operation of the transmitting equipment. The problem is difficult enough in areas essentially serviced by the transmitting stations, but is greatly aggravated in fringe areas where the received t.v. signal is weak.

It is quite a problem to solve because on the one hand the public spend upwards of £150 in serviced areas and upwards of £400 in fringe areas and naturally enough consider they have the right to obtain interference-free reception; on the other hand the Amateur spends many hundreds of pounds and, providing he is satisfied that his equipment is operating within the conditions governing his license, he rightly considers he should be able to pursue the hobby in which he has participated over the years when there was no television service. In both cases the Postmaster-General's Department accepts a license fee (including fringe areas) but in the case of the Amateur it is £1 for some 3,800 license holders compared with £5 for thousands of t.v. viewers.

For the Amateur to adopt a "stand-over" attitude as much as to say, "I was here first" is fundamentally and demagogically wrong. On the

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Modifying the AR8 Receiver

G. F. JENKINSON,* VK3ZFA

THE purpose of this article is to describe some modifications to well known R.A.A.F. AR8 Aircraft Receiver which the author has carried out and which have very considerably improved the performance. The main modifications are:—

- (1) Addition of a noise limiter.
- (2) Alteration of the audio system.
- (3) Addition of a magic eye and/or S meter.
- (4) Changes of valves in the h.f. unit.
- (5) Use of a Q multiplier.

DETAILS

The first step is to disconnect the three front-panel controls which are not required for Amateur use. These are: "Traffic-DF-Sense" switch, "Sense-Resistance," and "Bearing-Reciprocal" switch. The leads for the latter two can be disconnected and put out of the way, but the leads to the rotating contact and fixed contact which is used in the traffic position must be lifted clear and joined directly together. The "Traffic-DF-Sense" switch is not used in the following modifications, but can conveniently be used as a transmit-receive switch.

The two-pin outlet below the "M/F AE Tuning" knob is disconnected, and can be used as a speaker socket.

The bakelite aerial socket is replaced by a v.h.f. coaxial socket to allow coaxial cable to be used. However, this socket is such that a normal "banana" plug can be inserted if required.

The two power cable sockets can be conveniently removed and the lower hole is used with a more convenient type of power plug. The upper hole can be used for a magic eye (see modification 3).

(1) NOISE LIMITER

This uses a 6H6 (or 6AL5) valve (see Fig. 1). This valve and most of the associated components can be mounted on a small bracket below the m.f. switch (band-change) and coils. The heater power for this valve and also the magic eye were obtained, in the author's receiver, from the supply which had originally fed the 6X5 front-end protection valve. (The heater line was left wired for 12v, and thus the 6H6 plus 6U5 magic eye drew 0.6 amp. and made up for the removal of the 6X5 which alone drew 0.6 amp.)

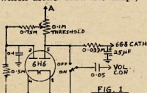


FIG. 1

The "Bearing/Reciprocal" switch was used for the noise limiter on-off switch, and the "Sense-Resistance" pot. was replaced by one of 100K ohms and used for the threshold control.

*1 Were St., Brighton Beach, S.S., Vic.

It should be noted that for good noise limiter performance the cathode bypass of the 6G8 audio amplifier should be increased from its original value of 0.05 μ F. to 10 or 25 μ F.

The connection to point A of Fig. 1 (i.e. to the bottom of the secondary of L.F.T.4 (T3)) must be made to one of the terminals at the top of this transformer, as the transformer contains some resistors and capacitor in its can, and the bottom terminals connect to point A through a resistor. An ohmmeter reading between 6G8 pin 5 and one of the "unused" terminals on the top of the last i.f., which reads 7 ohms, will give the terminal to use.

A coax cable is run from the point found above, through a hole drilled in the chassis for the purpose, to the three-hole pot. on the front panel.

The shielded lead to the tag, one around clockwise from the tag connected to the plate of the last 6U7G on the last i.f. transformer, should be disconnected (open-circuited) at this point or at the other end of the shielded cable.

This noise limiter circuit is the one which is used in the AR88 receiver and seems capable of giving very good results.

(2) AUDIO MODIFICATIONS

To make up for a loss of audio gain caused by the noise limiter, the author added another audio stage after the 6G8. This was a 12SQ7, but with rearrangement of heater supplies other valves could be used, e.g. 6SQ7.

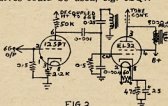


FIG. 2

The amplifier (see Fig. 2) is mounted on the socket previously occupied by the 6X5.

To drive a speaker more efficiently, the 6J7 output tube was changed to an EL32. The output transformer used for the 6J7 was removed completely. B+ and plate leads from the EL32 were run, in the author's receiver, to the loop aerial socket. (The output transformer was mounted on the speaker.)

The EL32 was chosen for the output valve because this requires only 0.2 amp. heater current, and thus the addition of a 60 ohm resistor across the heater socket connections was all that was needed to balance the heater current back to the correct value. (Circuit is given in Fig. 2.)

An audio filter was also added to the audio section (see Fig. 2). The choke used was a small speaker transformer with the paper removed from the air gap in the core and the plates interleaved. The value of capacitor is best

found experimentally. The filter in the author's receiver is a high-pass type with a low frequency cut-off of about 200 cycles. This improves the readability of weak signals.

(3) MAGIC EYE and/or S METER

A magic eye (6U5/6G5) was mounted behind the spare hole on the front panel which resulted from the removal of the original "power" and junc. box" sockets. The 6U5/6G5, together with the 6H6 noise limiter, made up the heater current to the value originally taken by the 6X5. For circuit see Fig. 3a.

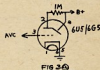


FIG. 3a

While the magic eye was useful, it was felt that an S meter would be more valuable. A simple meter measuring plate current was considered but rejected because it read backwards and only a small section of the scale could be used. However, a glance at Fig. 3b will reveal that by using about three resistors and a pot., plus the meter, the S meter is forward reading, can be zero set to any desired level, uses the full scale, and can be set to any desired sensitivity (e.g. no signal reading zero, and full scale reading at S9, or full scale at S99!!!)

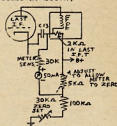


FIG. 3b

The meter used was a 50 μ A. temperature gauge. However, any sensitive meter could be used with slight resistor changes. The meter was mounted away from the receiver.

The zero-set pot. was mounted at a convenient point at the back of the receiver.

(4) H.F. UNIT

It was felt that modern valves in this unit would improve the performance, and this was found to be the case.

Adaptors for plugging the miniature valves into the octal sockets were made by mounting the appropriate miniature socket on an octal plug (e.g. a discarded valve base).

Where the grid lead originally went to the valve cap, a flying lead was run from the adaptor to the appropriate tuning gang lug.

R.F. Stage.—The 6U7 can be conveniently replaced by the noval valve 6Y7 which has very similar operating conditions to a 6U7, but a higher mutual conductance, and lower noise figure. No circuit changes are required.

Table of connections:

6U7 Octal Plug	6Y7 Noval Socket
Pin	Connect'n join to Pin
1	Heater 5
2	Plate 7
3	Screen 6
4	Suppressor 9
5	—
6	Heater 4
7	Cathode 6, 1, 3, centre spigot
8	Grid 2
Cap	Grid 2

Mixer Stage.—This is a 6A8 and in the author's receiver this was changed to a 6AJ8/ECH81. A 6AN7/ECH80 could also be used, but has different socket connections. Once again, no circuit changes were found necessary.

It should be noted that the signal grid in a 6A8 is grid 3, but in a 6AJ8, grid 1.

Table for 6A8—ECH81:

6A8 Octal Plug	ECH81 Noval Socket
Pin	Connect'n join to Pin
1	Heater 4
2	Plate 6
3	Screens 1
4	Osc. Grid 7
5	Osc. Plate Grid ignore
6	Heater 5
7	Cathode 9, 8, 3, spigot
8	Signal Grid 2
Cap	Signal Grid 2

Oscillator.—In the author's receiver this was a 6V6, and trouble was experienced with the oscillator not working reliably at the low end of range F. The circuit was checked and many 6V6s tried, without improvement. The trouble appeared to be due partly to low heater voltage. The oscillator was then changed to a 6AS6 (or 6AK5) (both of which are miniature 7-pin types). This made the oscillator perform very well on all h.f. bands.

The only circuit change required is to connect a 25 ohm 3-watt resistor across the heater pins (2 and 7) inside the receiver itself to make up for the difference in heater current between the 6AK5 or 6AS6 (0.175A) and the 6V6 (0.45A). With no other circuit changes the 6AS6 is running close to maximum ratings, but seems quite satisfactory.

Table for 6V6—6AS6 (or 6AK5):

6V6 Octal Plug	6AS6 Min. 7-pin Socket
Pin	Connect'n join to Pin
1	Heater 3
2	Plate 3
3	Plate 5
4	Screen 6
5	Grid 1
6	—
7	Heater 4
8	Cathode 2 and 7

Do not forget the heater resistor!

The receiver should then be re-aligned and the split rotor plates of the oscillator section of the tuning gang be bent slightly if the tracking is found to be out between dial reading and frequency received.

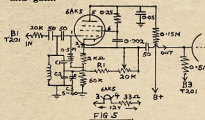
Note.—The intermediate frequency is 755 Kc. and thus to receive b.c. band stations near this frequency, the i.f. must be set accurately. It is suggested that the signal generator frequency be checked against the nearest b.c. station in frequency, e.g. 3LO on 770 Kc. A list of b.c. station frequencies is contained in the W.I.A. Call Book.

(5) Q MULTIPLIER

Generally this is a regenerative device somewhere in the i.f. strip, the amount of regeneration being controllable. Just before oscillator occurs, the device exhibits a very narrow peak in its frequency response, and if coupled into the i.f. strip can be used to peak or minimise a narrow band of frequencies.

For the AR8, a transistor Q multiplier was first tried. This was coupled to the receiver by only a single coaxial cable which went to the mixer plate. This gave a fairly narrow notch in the response. It was, however, rejected, mainly because it lowered the receiver gain considerably.

A valve circuit (Fig. 5) was then tried. This worked very well, exhibiting a very sharp peak just before oscillation occurred. This peak was sufficiently narrow to make phone copy unpleasantly deep and unintelligible. By reducing the feedback, the bandwidth could be increased to anything required. Also, with the Q multiplier set for good selectivity, the receiver gain was greater than without the Q multiplier, i.e. the addition of the Q multiplier leads to increased selectivity and gain.



The connections to the Q multiplier were taken to the top of the first i.f. transformer (T201). The lead into the Q multiplier (which was built in a small "jack box" and sat on top of the receiver) was taken from the top contact of T201, which went, previously, to the 6U7 1st i.f. grid. (This coil connection is contact B1). The output of the Q multiplier was taken by another length of coaxial cable straight to the 1st i.f. amplifier cap, and to give a d.c. return to this valve grid, as well as a.v.c., a 1 meg. resistor was run from the grid cap to contact B3 of T201. This contact goes to the cold end of the secondary, directly, and thus there is decoupled a.v.c. voltage at this point. Contact B3 is two positions clockwise round from B1, B2 being just a hole.

The Q multiplier must be the first i.f. valve. Resistor R1 is chosen so that oscillation occurs when most of the 20K ohm pot. is shorted out. (R1 is 2K ohms to 20K ohms).

The tuning coil is chosen, along with C1 and C2 (which are about equal in value) to tune to 755 Kc. with capacitor C3 at mid position. The coil used was one of the windings of an old wooden-

cored 455 (?) Kc. i.f. transformer. The frequency can be checked by a g.d.o. If the g.d. oscillator will not tune down to the required frequency, a simple way to use it is to connect a spare tuning capacitor across the pins of the coil by twisting the wires from the capacitor around the appropriate coil pins. This capacitor can then be tuned for a dip as usual and the frequency be determined by locating the signal on a receiver and reading the receiver frequency. (Make sure the receiver is not tuned to a harmonic of the grid dip oscillator, by listening on frequencies which could give harmonics on the observed frequency.)

To prevent disturbing the main heater line, the Q multiplier was run from 12v. through a 33 ohms dropping resistor.

Note that the AR8 normally has no d.c. return to chassis for the heaters.

BOOK REVIEW

"G.E. TRANSISTOR MANUAL"

This booklet contains information in the following three topics: (1) Semiconductor device fundamentals and principles of application (approx. 60 pages); (2) Typical, practical circuits (approx. 50 pages); (3) Specifications of G.E. devices (approx. 50 pages).

The semi-conductor devices discussed are junction rectifiers, simple junction transistors, unijunction transistors (double base diodes), controlled rectifiers (hook transistors), and tetrode transistors.

After a disappointingly brief introductory chapter on "Basic Semiconductor Theory" the various devices are discussed in terms of their application. This is, of course, a sensible enough classification but, unfortunately, the obvious multiplicity of authors results in differing standards of presentation from one chapter to the next. Even more important is the failure to integrate the treatment of the various devices in terms of those fundamental factors which are common to all. For example, on page 15 under "Biasing", the temperature dependence of I_{sc} is mentioned without any explanation or elaboration, whilst forty-nine pages later under "Transistor Switches" there appears a very worthwhile discussion of the origin and rate of increase of I_{sc} . This chapter on "Transistor Switches" is the best and most complete section of the book but is not likely to be of great use to people interested in communication engineering.

The chapters on "Basic Amplifiers", "Hi-Fi" Circuits, and "Radio Circuits" are little more than collections of practical circuits which have been prepared with "reasonable care . . . although no responsibility is assumed . . . for any consequences of their use." These chapters will be of little use to the man who desires knowledge on the essentials of transistor operation and basic circuit technique.

Furthermore, the 50 page specification section will be of very limited use to Australian readers.

This Third Edition published by the General Electric Company, Semiconductor Products, 1224 West Genesee St., Syracuse, New York, is priced at £1 Australian.

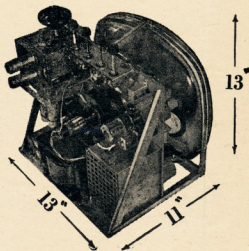
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THE GELOSO RECEIVER FRONT END UNIT

WHEN ever a new Amateur receiver hits the Australian market, it always creates a lot of interest and curiosity. In this case the interest is two fold, as R. H. Cunningham Pty. Ltd. have not only released a new receiver, the Geloso G209-R, but also in kit form the coil box, tuning condenser with dial and drive mechanism, aerial trimmer, oscillator trimmer, and a 4.6 Mc. output transformer of this receiver. This kit can form the basis of a good receiver, either as a converter fed into any receiver that tunes 4.6 Mc. or as a front-end for a home-brew i.f. strip, detector, etc., and audio.

The Publications Committee have recently had the opportunity of testing one of these kits which had been built into the converter unit described herewith. We must admit that this is one of the more pleasant duties associated with producing the magazine.

Of course the first question everyone will ask is just how well does it perform? Sensitivity figures have been published on the 209-R receiver and naturally these figures apply also to this converter. Unfortunately, figures of this kind cannot always convey just how signals sound coming through the speaker. After an extended test on ten meters (how does your receiver sound on ten?), we can definitely say that it is in the "hot" class. Conditions on the band were anything but good. However, the signals there stood out well with

The actual dial drive is one of the neatest ideas seen for a long time. The shaft from the knob is actually a 5 to 1 ratio planetary drive. This is then coupled to a 4-inch drum by means of a nylon cord. One small criticism of the tuning is the size of the knob. One about twice the diameter is needed to give the right feel.

We fed the converter into receivers ranging from a 122 set and a Type 3 to an AR88. Naturally the selectivity characteristics and gain varied from set to set, but overall performance was essentially the same with all.

To sum up, several of the committee members were heard to comment, "You can leave one in my shack any time."

Although only the component parts are available at present, a complete kit for the converter unit, including power supply, chassis, cabinet, etc., will be obtainable at a later date.

We are indebted to R. H. Cunningham Pty. Ltd. for the opportunity of testing this fine unit.

—PUBLICATIONS COMMITTEE.

★

MANY readers of "Amateur Radio" have, during the past two years, built the famous Geloso Exciter units into a transmitter and, at reasonable cost, have obtained excellent results with a "professional" finish. Now available in this country is the Geloso Receiver Front-End Unit, which is as used in the G209-R Double Conversion Superhet.

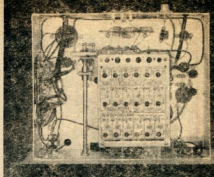
This unit consists of the following parts:—

- (1) Coil unit—type 2619;
- (2) Dial assembly—type 1649;
- (3) Variable gang condenser—type 2791;
- (4) I.F. Transformer—type 701/A;
- (5) Aerial trimmer condenser—type 8475;
- (6) Oscillator trimmer condenser—type 80173.

The coil unit itself is ready wired with valve holders, resistors, condensers, wavechange switching, etc., only requiring external connections for h.t., i.f., gang condenser, i.f. transformer, a.v.c. and aerial. The i.f. is at 4.6 Mc. bringing the unit on to almost any shortwave receiver, and each Amateur band is spread to give the following frequency coverage:—

10 Metres	28.0 to 30.0 Mc.	Band 1
11 "	26.0 to 28.0 "	" 2
15 "	21.0 to 21.5 "	" 3
20 "	14.0 to 14.4 "	" 4
40 "	7.0 to 7.3 "	" 5
80 "	3.5 to 4.0 "	" 6

A trimming adjustment is provided for every coil in the unit and is clearly marked with adjustment frequency figure. The unit can, if desired, be built directly into a receiver using a second mixer to convert to, say, 465 Kc., or may be assembled as a converter, and fed out at 4.6 Mc. to a receiver such as a BC348, BC342, or AR8.



The dial mechanism provides a 72:1 reduction from an epicyclic motion with a nylon cord drive. The cord is spring loaded, giving positive action and preventing backlash. No cut-and-try method of adjusting the drive cord is necessary as the exact length is supplied, correctly terminated on the loading spring.

The size of the coil unit is approximately $5\frac{1}{2}$ " x 4" x $3\frac{1}{2}$ " deep and is designed for mounting below a chassis. The dial is $8\frac{1}{2}$ " x 5" and the minimum panel height requirement for the assembly is $8\frac{1}{2}$ ".

THE CIRCUIT

This uses modern type valves—6BA6 (r.f. amplifier), 12AU7 (oscillator and buffer) and 6BE6 (mixer). One interesting feature is the employment of a double triode (12AU7) in the oscillator circuit. The first half is run as the oscillator and the second half as a cathode follower buffer stage. This prevents any pulling of the oscillator frequency by the aerial and mixer circuits.

Fig. 1 shows the complete circuit required to build a compact converter which will impart to an old receiver modern performance, with an excellent signal-to-noise figure of better than 6 db for 1 microvolt input.

The power requirement of the unit is 230 volts at 45 mA. with 150 volts and 6.3 volts a.c. of 1.65 amp. From Fig. 1 it will be seen that the 150 volt stabilised supply may be obtained from an OA2 valve.

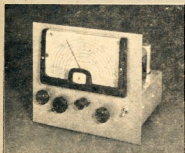
A buffer stage (6C4) is included to provide a low impedance cathode follower output and permits a convenient connection to the antenna circuit of the following receiver by means of coaxial cable (maximum length, 80 inches).

An r.f. gain control is provided on the unit, consisting of a variable negative voltage of -1.7 to -20 volts.

An interesting feature of the circuit is the provision of an additional wafer at the rear of the coil unit for adjusting the screen voltage to the 6BA6 r.f. amplifier valve. It will be appreciated that the performance of most valves is better at 3.5 Mc. than at 30 Mc. and this ensures that the sensitivity of the unit is the same on every band, and is invaluable for correctly calibrating an S-meter.

MAKING THE COMPLETE CONVERTER

The design using the Geloso coil unit and dial assembly shown in the photographs was based upon a 18 sw.g. aluminium chassis $10\frac{1}{2}$ " x 8" x $3\frac{1}{2}$ " deep and front panel of $11\frac{1}{2}$ " x $9\frac{1}{2}$ ". The coil



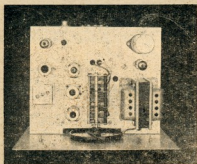
Prototype of the Geloso Receiver Front End Converter Unit.

Controls (left to right): R.F. gain, tuning, band selector, aerial trimmer, h.t. switch.

little background noise. This test was made on a wire antenna and not a beam. Frequency stability was adequate for good s.s.b. reception on 10 and 15 metres. Naturally though, this is dependent on just how well you build this unit in, and how stable is the receiver the converter is fed into.

For the sideband enthusiasts the tuning rate will be of interest. The following figures apply to Australian frequency band allocations: 80 metres, 19 turns; 40 metres, 15 $\frac{1}{2}$ turns; 20 metres, 26 $\frac{1}{2}$ turns; 15 metres, 26 turns; 11 metres, 4 turns; and 10 metres, 32 turns.

The general layout of the other components can be seen in the photographs and their exact position can be determined by the user.



ASSEMBLY

First mount and wire all components with the exception of the coil unit, tuning condenser, dial and front panel. The epicyclic drive can now be mounted on a bracket and before screwing the bracket under the chassis slip two turns of drive cord over the drive spindle and locate them around the thin section of the spindle, immediately in front of the brass bush. Mount tuning condenser on feet and secure to top of chassis. Fit coil unit and antenna trimmer on bracket under chassis. The remainder of the wiring can now be completed. The front panel can be secured in position and the dial mounted. Before fitting the escutcheon to the dial, mount the dial light assembly and push the pointer into position on the tuning condenser spindle. Make sure that the pointer is horizontal and that it points to the 100 mark on the condenser vanes fully in mesh. Check that the dial drum is correctly located on the condenser spindle and that the pointer will turn 180°.

TESTING AND ALIGNMENT

Check all wiring and fit valves. Connect the output of the converter to the aerial input of the receiver and tune to 4.6 Mc. Connect the converter to mains and switch on.

At this stage it would be advisable to check voltage points in the converter. H.t. +230 v., stabilised h.t., screen 6BA6 network, and heaters.

All coil units are checked by the manufacturer before despatch and are usually not very far off. Alignment can best be accomplished by using a signal generator, but this is by no means an absolute necessity if a local transmitter can give a few "spot" frequencies on different bands—or a good station frequency meter is available. In the latter case, an aerial should be connected to

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the aerial socket in place of a signal generator.

Commence by feeding 4.6 Mc. into the converter and peaking the i.f. transformer, then adjust the 4.6 Mc. trap for maximum attenuation. The remainder of the alignment procedure is quite straight forward as all the spot alignment frequencies are clearly marked at their respective trimmers or coils on the underside of the coil unit.

Alignment should be done with the antenna trimmer in the mid position.

A.V.C. CONNECTION

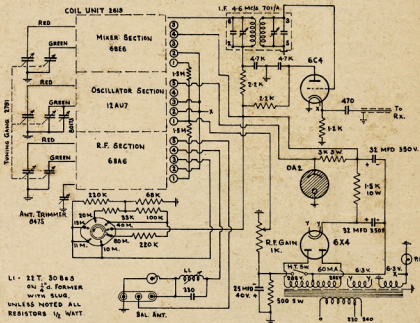
If the user so desires, a.v.c. from their existing receiver may be connected to the converter. This can be accomplished to give maximum results by

retaining manual r.f. gain on the 6BA6 r.f. stage and applying a.v.c. to the 6BE6 mixer.

CONCLUSION

This new receiver front-end will improve the performance of many existing receivers. It combines the advantage of a double conversion circuit with improved signal-to-noise figures and increased sensitivity. The bandwidth will really be appreciated by the operator with that good "surplus" receiver which lacks the bandwidth on Amateur bands. So, with the availability of this unit, we can get performance at least equivalent to, if not better than, many modern communications receivers.

—H. V. Amor, VK3RD.



The modern practice of leaving the oscillator running during stand-by periods is a suggested amendment to the above circuit.

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The S-9'er Mark II.

THE magazine "CQ" in May 1956 carried an article on the S-9'er, which used a 9-pin miniature t.v. cascode twin-triode, the 6BK7A, to replace and plug into the r.f. stage of any receiver using a 6SK7 or the like. This was a cathode coupled amplifier which gave excellent results noise-wise, with some loss of gain and a few reports of instability.

"CQ" for May 1959, pages 44 and 45, introduced the S-9'er, Mark II, written by K5JKX, which converts the pentode r.f. stage into the cascode twin-triode tube was designed for. Gain in this case was claimed to be equal to the replaced pentode, in fact in some cases better, and the stability was quite good.

I made up both of these models and gave them a solid try-out, and without any doubt the Mark II. version more than lived up to the claims made for it. It has been tried in at least a dozen receivers, both commercial and homebrew, and the gain in at least two-thirds of them was increased by 6 db, and the improvement in signal-to-noise was immediately apparent on them all. Some instability was noticed in four of the receivers, but it was immediately cured by earthing the valve can, as suggested in the article.

It will be noted from the circuit that the cathode of the first section is returned directly to ground through pin one of the octal-based socket, thus removing the r.f. stage of the receiver from the normal gain control line and converting the gain control into a purely i.f. gain control, resulting in still more signal-to-noise ratio improvement.

If manual control of the first stage gain is desired, resistor R1 and capacitor C1 can be omitted and a lead run directly from pin three of the novel socket to pin five of the octal base, which will retain the original r.f. cathode circuitry. I personally tried both these connections and felt that the difference, if any, was not worth bothering about, and therefore the saving of two components is worth considering.

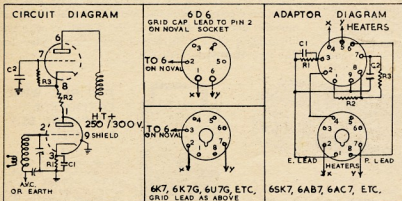
Well, now the pretence is over. This is not a technical article in the true sense, it is simply a re-write of an article in "CQ" which is without doubt a winner and nothing new remains but to give a few helpful hints gleaned from my actual experience with the converter in the thought that it may help to answer any remaining queries that might be in your mind.

Not all twin-triode tubes are worth using in the converter, for example the

In closing, I would like to say that I don't want to talk you into making this converter up if you are satisfied with your present receiver's r.f. stage. If, however, you are looking for an improved signal-to-noise ratio, with no loss in gain, and a chance of some increase in gain, then this is it. The only catch to the whole set-up, as I see it, is whether or not you can get hold of a suitable tube. All of the tubes mentioned are listed in the latest tube manuals, but as they explain, that does not mean they are as yet available.

My thanks to K5JKX for a very interesting article and the opportunity to spend a number of pleasant hours testing the truth of his assertions.

—Warwick W. Parsons, VK3PS.



Base and socket connections are bottom views. When replacing a 6D6, find which heater pin is earthed and connect to pin 9 on novel socket. The same applies to types 6K7G, 6U7G, etc., and for 6K7 metal, if pin 1 is earthed use this instead. Insulate all leads between novel socket and base with spaghetti sleeving.

Component values: R1—100 ohms 1/4w. carbon; R2—33 ohms 1/4w. carbon; R3—470K ohms 1/4w. carbon. C1 and C2—0.001 μ F. disc.

Components of the Mark II. include three resistors, two capacitors, a tube socket, an adaptor base and of course the tube. Any of the cascode designed twin-triodes will work well in the circuit, such as the 6BK7A, 6BQ7A, 6BZ7, and the 6BS8. This latter tube gives the best results mainly because of its freedom from cross-modulation and its extra gain.

With respect to the circuit, whilst measurements will show the difference between a coil-neutralised cascode and one using merely a 33 ohm resistor between stages, no difference can be detected in on-the-air tests and for that reason and also to simply the adaptor, the resistor was used.

12AT7 or the 6J6, for obvious reasons. The 6BQ7A works OK but is a little down in gain compared to the others; again for obvious reasons. The article stressed the point that in all tests, best results were obtained using 250 to 300 volts on the plate and lower plate voltages reduced the efficiency, and was not recommended.

In one or two commercial receivers which have the S meter circuitry tied up in the screen circuit of the pentode r.f. stage in a balanced network arrangement, naturally the S meter readings go all haywire. In this case, the circuit was used in a preselector set-up with excellent results and is mentioned only as a suggestion.

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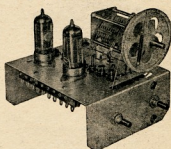
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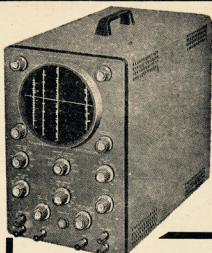
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GENEVA REPORT

SINCE my last report to you I have every reason to believe that the delegations at the Administrative Radio Conference in Geneva have been working very hard in pursuit of satisfactory agreements to all the problems being raised by the various countries—and there are plenty of problems.

As I mentioned previously, a great amount of information from the Conference is of a sub judice nature and I must ask you—as Australian Amateurs and members of the Wireless Institute of Australia—to believe me when I say that everything possible is being done at Geneva by Amateurs representative of many countries to maintain the Amateur frequency allocations insofar as that is possible against the extreme pressure from the commercial interests.

I can say this quite definitely, that the finalising of frequency allocations is a continuous process in which the entire spectrum is first of all reviewed in Committee Four (the Frequency Allocation Committee) and then sent to various working groups which study small portions, iron out differences and attempt to accommodate as many proposals as possible. From reading the pages of reports sent back to me from John Moyle, it is becoming increasingly evident that the pressures for more frequency space by all services in all countries is becoming greater as the Conference progresses and the full story will not be really known until the Conference is over and our representative returns to report personally to us.

It is quite useless, and most unwise, to make public a running statement on the progress of the various committees and working groups because the same ground is gone over many times and the decisions of any one group are often completely upset and re-opened at a later stage. Often lines of thought develop into discussions of a highly confidential nature in which the most delicate balances and confidences are involved. It is quite evident that the full picture will not be known until the end of the Conference, so it is not possible to forecast the final result or give final information at this stage.

However, initial decisions indicate that Amateurs in Region III. will probably lose 100 kc. off the top end of the 3.5 Mc. band, but the resultant band 3.5 to 3.7 Mc. will be exclusively an Amateur assignment whereas before it was shared with fixed and mobile services.

The 7 Mc. band is being hard pressed by all countries in all Regions for an exclusive Amateur assignment 7 to 7.1 Mc. and it is probably true to say that a footnote will be added that it is an exclusive assignment to the Amateur Service on a world wide basis and that countries will remove existing transmissions from this part of the spectrum. If this is the final result—and this is by no means certain—then we can expect to be in a better position than we were prior to the Conference.

An international telegram from John Moyle a few days ago stated that Australia has agreed to withdraw its proposal to reduce the 14 Mc. band currently used by the Amateur Service on a world wide basis. This is not a surprise because we forecast before the Conference commenced that it would quite possibly never get through the Geneva Conference and this was substantiated by members of the Frequency Allocations Sub-Committee at meetings which I attended with other members of the Federal Executive. As has been said so often during the past many months, the initial proposed frequency curtailments were only proposals and would have to be widely discussed by all countries before we could have lost them. Even now, the present position could change overnight, but it is heartening to know that at least initially Australia has agreed to withdraw its proposal regarding the most important DX band assigned to Amateurs.

Despite the pressure for frequency space in the bands between 3 and 30 Mc., there does not seem any likelihood that changes will be made to the present 21 Mc. band. The 28 Mc. band will also probably remain at 28 to 29.75 Mc. which is officially what Region III. has always had although the Australian Administration has permitted us to use up to 30 Mc. in the past.

As at the last report I received from Geneva, only preliminary discussions had taken place on the bands above 30 Mc. and there is nothing to report at this stage.

Looking at John's reports in retrospect, I am satisfied that the money raised to send our own representative to Geneva has been far from wasted, and the knowledge gained at a Conference of this nature will have been well worth the cost by the time the Conference concludes.

As John Moyle says, and I quote from part of one of his reports, "When extreme pressures are at work, particularly in the bands between 3 and 30 Mc., there isn't much sentiment where national interests are involved, and discussions frequently are converted into major political issues in the big plenary sessions. At the moment of writing there are more than 60 separate committees and groups functioning, and others are created and closed almost every day. The task of following even those in which we are mainly interested is very great, and it has been an education to me which I hope will be completely invaluable in helping us to understand and then handle our problems in the future."

You will recall from my earlier report to you that part of our brief for John Moyle was to investigate more fully the position of the International Amateur Radio Union today and what could be expected of it in the future.

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At a meeting of some 60 Amateurs, he had the opportunity to discuss the I.A.R.U. and reports that he made quite a long speech concerning Region III's outlook and what should be expected of the Union during the next eleven years. John reports that he will have quite a lot to say about the I.A.R.U. when he returns.

I hope in the near future to be able to give you a more definite report on the probable outcome of the Conference where our bands are concerned. In the meantime I would ask you to try and appreciate the sub judice nature of proceedings at this stage and the danger of making public statements until confirmation of the final position is made known.

G. MAXWELL HULL,
Federal President, W.I.A.

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Some Hints on the Stabilisation of Tetrode and Pentode Amplifiers

EDWARD P. TILTON, W1HDQ

THE four words of our title are encountered almost daily in mail handled by the A.R.R.L. Technical Information Service. They are also voiced frequently by visitors to the A.R.R.L. Lab., who tell us their troubles with equipment they've been building. Often it turns out that instability trouble these fellows have is the result of common misconceptions as to right and wrong methods of bypassing and grounding in tetrode and pentode amplifiers.

We neither expect nor want everything built from "QST" and the Handbook information to be exact duplication of the original. To be of greatest value, equipment descriptions should be used for ideas to be incorporated in gear of your own design. If "QST" and Handbook articles were used only for exact duplication they would not be making the most of the time and money spent on them. The important thing is to know what to change, and what to leave as the original designer made it. Methods employed in bypassing and grounding should be in the latter category.

To some extent each new amplifier represents a design problem. We would not have you believe that every transmitter or converter built in the Headquarters lab. is stable right from the start. But from long experience we have become well acquainted with some of the more common forms of instability. These have all been discussed at one time or another, but a summary may still be in order, especially in view of the fact that assembly details we will be talking about often do not come through well in photographs. Even an experienced builder of Ham gear may find it hard to know just where to put a by-pass lead or a grounding lug, no matter how well the pictorial and descriptive details are set forth in print.

Certain tubes have a reputation of being hard to tame. The 807 was such a dog for many Hams for years, and the evil reputation it built up, largely unjustified, is now inherited (with even less justification) by the 6146. It is true that tetrode and pentode tubes, having very high power sensitivity, may require neutralisation, but more often than not the trickiness involved in getting an amplifier to operate stably is the result of violation, by the designer, of certain cardinal principles. If you yearn for the "good old days" of easily neutralised triode amplifiers it may be that you've been building in some troubles for yourself.

PUT THE SOCKET ABOVE THE CHASSIS!

Many a lab. headache has been relieved like magic by the simple expedient of taking out a socket that was mounted below the chassis and putting

it on the tube side of the chassis or mounting plate. This became really important when we started building transmitters that had to work on many bands without readjustment of neutralisation. Cause of the oscillation trouble with sockets mounted under the chassis is often the long plate-cathode return. This return cannot be made effectively via screws going through the chassis. The actual path (and you can often trace it by chassis "hot" spots) is around the edge of the chassis, or through some large hole. Some considerable portion of the chassis thus becomes common to both plate and grid circuits, and the resultant feedback is difficult to neutralise out.

144 Mc. and higher. Then some form of screen tuning becomes necessary. Examples will be found in all recent editions of the Handbook. Such circuits usually involve series-resonating the screen circuit to ground, to provide a path of lowest possible impedance.

Occasionally you will find a circuit in "QST" or the Handbook in which no screen bypass is shown. These bring inquiries as to whether an error was made, and what value bypass should be used. Diagram readers are accustomed to seeing screens bypassed, and they can't imagine it not being done. Sometimes the circuit is a frequency multiplier, and in that case it doesn't make much difference whether the



Models illustrating right and wrong methods for bypassing and grounding terminals of a 9-pin miniature socket. Both show Pins 4 and 9 grounded, with a cathode resistor and associated bypass capacitor connected to Pin 3. In the wrong approach, left, a wire is run from Pin 9 through the centre shield and Pin 4, to a grounding lug. The bypass is made from Pin 3 to the centre shield, making its path to ground common with other circuits. In the example at the right, the pins to be grounded and the ground lug itself are bent tightly against the cylinder and soldered in place. Bypass is grounded at the bottom of the lug.

This sort of thing may not be troublesome in an amplifier designed for a single band, though even here it may make the neutralisation job fussier than it should be. But in an amplifier for several bands the effect of coupling through common ground paths varies with frequency. Your amplifier requires neutralisation on some bands but not on others, or the degree of neutralisation cannot be set up right for several different bands. Having gone through this with more amplifiers than we care to recall, we now put the sockets atop the chassis first, instead of making ourselves an almost certain reworking job by mounting it in the "conventional" manner.

COOLING DOWN THE SCREEN

Once the socket is mounted above the chassis the method of bypassing is still important. The screen and cathode must be at zero r.f. potential or there's going to be trouble. The screen is the villain in some amplifiers that should be stable but aren't. To cool it off, bypass right at the screen terminal or terminals. If there is more than one screen pin, bypass each one separately right to the chassis, with no leads. Forget the old precept of a common ground bus, or a common grounding point. The chassis is the place to go with bypasses, and without any wandering!

Ordinary bypassing may be ineffective in v.h.f. amplifiers, especially for

screen is cold or not. Why waste a capacitor, in that event? At 220 and 420 Mc. several factors come into play that may make screen bypassing unnecessary. The screen-to-ground capacitance within the tube may be enough to do the job at these frequencies. More important, degeneration due to cathode lead inductance, and loading of the tuned circuits by the tube, may cut the power sensitivity of the amplifier to the point where self-oscillation is not the problem it is on lower bands.

THE HOT CATHODE

Oscillation troubles are often built into tetrode or pentode amplifiers by inserting a keying jack in the cathode lead. The cathode has to be cold, too; perhaps even more so than the screen. In the 50 and 144 Mc. exciters in the Handbook you'll notice that the 50 Mc. job has cathode keying; the 144 Mc. one does not. That's because small disk ceramics (probably the best v.h.f. bypasses available at low cost) are effective at 50 but not at 144 Mc. That 144 Mc. cathode (2E26 or 6146) could probably be cooled down by some special circuit tricks, but we found it simpler to resort to some other method of keying, and left the cathode grounded by the shortest possible lead, in the rig for the higher band. Grounding each cathode lead separately may be desirable with the 2E26 and 6146.

* Reprinted from "QST," March 1959.

BYPASSES THAT DON'T BYPASS

Oscillation troubles are not confined to transmitters, as any v.h.f. converter builder knows. And oscillation is not always where you'd expect to find it—in a pentode or neutralised-triode amplifier stage. We've seen quite a few "grounded-grid" stages that took off all over the place because the grid was not actually grounded. In several instances a wire lead was run from the cylindrical shield in the centre of a miniature socket to a ground lug at one or both sides of the socket. Bypass capacitor leads were connected to the cylinder, or to some point along the wire, rather than to the lug, right at the chassis.

The effect of r.f. voltage building up on a ground lead, perhaps no more than a quarter inch long, can be observed by running the stage in an oscillating condition, and then probing for hot spots with a pencil lead. If the stage is in a receiver, you can listen for scratching sounds. If it is a transmitter, watch the grid current in the offending stage.

least two hassles with sockets of this type in recent lab. experience, but this writer will have no more!

Quite a bit of new manufactured gear employs a device that was all but discarded years ago, the so-called wafer socket. In the days of the "low-loss" insulation craze we looked down our noses at anything but ceramic insulation. Now we know that most other insulating materials are good enough, at least in low-voltage applications, and that the physical construction of the socket as to lead lengths may be more important. The flat wafer socket has a distinct advantage in this respect. If the chassis is a material that will take solder readily, socket terminals to be grounded can be soldered directly to the chassis, resulting in much lower lead inductance than is possible with bulkier ceramic or moulded bakelite sockets.

From all this discussion it can be seen that there are more causes of instability than first meet the eye. With triodes the main cause of oscillation is

TECHNICAL TOPICS

NETTING

HEARD on the 7 Mc. band quite frequently: "This is VK3XYZ standing by for VK5YZK." VK5YZK does not reply. "Another transmitter failure" we think. But no. Re-tuning we find VK5YZK 5 kc. higher in frequency.

Apparently in making contact one of these two stations has failed to net accurately and the result is:—

1. They are occupying two channels instead of one in a crowded band.
2. Their contact may be broken up by a third station coming up on the temporarily vacant channel of the station listening.
3. In replying off-frequency, one station may have inadvertently dropped on an adjacent channel in use by a weaker station.

No good at all.

But why and how do they do it? My guess is that either:

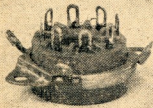
1. They switch on the whole transmitter to net, thus blocking the receiver for 10 kc. either side and tune the v.f.o. until the blocked bandwidth straddles the frequency they wish to net, or
2. They net by tuning the v.f.o. dial to the same frequency read on the receiver dial.

The generally accepted accurate method of netting is to switch on only the oscillator tube of the v.f.o. or such low power stages that the signal can be heard in the receiver without blocking it and zero-beat it with the signal of the station being received. It may happen then that when the final stage comes on, it pulls the oscillator to a new frequency, but if this causes more than a hundred cycles or so change, then an additional isolating stage is required in the v.f.o.

The necessary switching arrangements to bring in the oscillator separately are not difficult to design, but there are a few catches. At the first attempt at my station, switching on the oscillator plate also brought on the screen of a later stage without the plate of that later stage and this does not tend to long life of tubes.

A method of checking whether the oscillator is pulled when the final comes on is as follows: First, listening in the receiver, zero-beat the frequency meter-monitor to the oscillator signal. Then switch on the final and listen in on the monitor to see whether it is still zero-beat.

—J.A.G.



Tube socket with built-in grounding ring and four lugs (left) is an invitation to trouble due to common ground paths. Flange between lugs may not contact chassis, in which case connections made to lugs have long path to ground. Socket at the right necessitates grounding to chassis or to lugs under mounting nuts, making it possible to avoid common ground paths.

In a 50 Mc. transmitter built for the 1959 edition of the A.R.R.L. Handbook we ran into trouble with a 6146 stage that refused to neutralise. We tried several methods; each would come close, but not quite do the job. In this rig we had abandoned the principle discussed earlier and mounted the tube socket below the chassis, primarily to save over-all height. With just one band to worry about, we felt the calculated risk worth taking.

In this amplifier both the screen and cathode leads were hot. Touching the screen or cathode terminals caused a flicker in the small amount of grid current that persisted in the 6146 stage, when drive was removed. In desperation we pulled out the socket and put a different type in its place—and at once the capacity-bridge neutralisation system we'd been wrestling with for days neutralised the stage out as easily as anything we've ever worked with.

The cause of all the trouble was the same old bugaboo, common ground paths, in a somewhat different form. The socket was a popular make having a metal grounding ring in a slightly different plane from the ears that mount the socket to the chassis. There are four lugs extending from the ring that are intended for grounding points. They may be suitable for that purpose at lower frequencies, but in a v.h.f. amplifier the lugs and ring provide a built-in common path for the circuits grounded or bypassed thereto. We've had at

the considerable grid-plate capacitance of the tube or tubes. We neutralise this out with a capacitance that is approximately the same as the tube grid-plate capacitance, feeding back energy 180 degrees out of phase with that fed through the tube, and the job is done. The power sensitivity of triode tubes is low, so the neutralisation process is fairly routine. (We didn't think so back in the '30s, however!)

Tetrodes and pentodes have additional tube elements that keep their grid-plate capacitance at a very low value, usually under 0.1 pF. This in itself is seldom enough to cause trouble, but our layouts usually add other kinds of feedback. If we don't shield or otherwise isolate the input and output circuits there may be fairly large values of coupling between them, by inductive or capacitive means. Power leads, unless carefully decoupled, may provide common coupling. But even a perfectly shielded amplifier with adequate lead filtering can still have common coupling between the input and output circuits through the ineffective bypassing and grounding techniques outlined above.

And when all these factors are taken care of we still have parasitic resonances—but this started out to be a discussion of bypassing and grounding techniques. Squelching parasitics is another story, and one that is already covered adequately in the Handbook.

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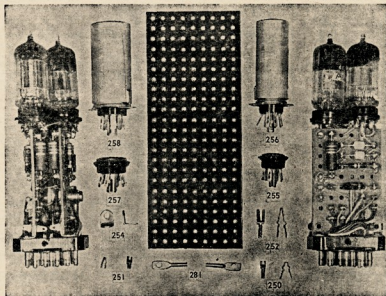
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Donations to the I.T.U. Fund closed on 31st July, but some more donations are still being received. All donations are welcome as our objective of £2,500 was not quite reached although being very close to it. Federal Executive wish to express their very sincere and grateful thanks to all who contributed in any way. Many subscribed two and three times and indicates the enthusiastic support this appeal received.

Our representative, Mr. John Moyle, is now in Geneva and is at present representing the cause for which this appeal was made—the Australian Amateurs' interests. Although the results of this representation may eventually appear to be obscure on the face of things, our resultant knowledge of the conducting of such Conferences and the contacts made there will be immeasurable.

The great lesson from this appeal is that when the Amateurs of Australia realise an ideal is worth fighting for they will give their support to the cause. F.E. once again extends its thanks to each contributor and to the many officers in Divisions who gave their time and energies to administer the fund.

The list below acknowledges the contributions received to the 20th September:

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EDITORIAL

(Continued from Page 1)

other hand the Amateurs should expect the co-operation of the t.v. viewer in eliminating interference which, in other than perhaps fringe areas, should be relatively simple if the Amateur transmitter is operating correctly. Therefore public relations is the most vital key to the problem as we see it, and it is up to every Amateur who becomes involved in t.v. cases to remember first and foremost the Amateur's Code.

This won't always be easy for woe are experienced, from the early broadcasting days, with the attitude adopted by some members of the public. But we must look always first at their point of view and in a gentlemanly way see what can be done about it.

Currently some t.v. viewers suffering interference from Amateur stations neither approach nor permit the Amateur to carry out the necessary tests to eradicate interference, nor do they approach the Radio Interference Branch of the Postmaster-General's Department. They write to the Department on their local Member or a Minister himself. The result can be both swift and sure . . . the Amateur will be told to stay off the air during t.v. hours. It's happened in other countries, so it's nothing new in the Amateur service.

Unfortunately, the Amateur doesn't always know he is causing interference, particularly where the t.v. viewer will not co-operate, and he will be sometimes blamed for interference even when he is not on the air or hasn't been operating during t.v. transmission hours anyway. Of course it's not fair! But that's the problem you are going to come up against. So what to do about it?

First and foremost, remember the Amateur's Code in dealing with the public. Secondly, see for certain that your transmitting equipment is not at fault in any way whatsoever. Thirdly, when co-operation is forthcoming from the t.v. viewer, see that your tests are carried out during test pattern transmission time and not during programme time in this way you will not interfere with other viewers in the same area even if your immediate t.v. viewer is co-operating with you.

In the Divisions of the Institute T.V. Committees will be formed where they don't already exist and they will be asked to forward complete details of all interference problems to the Federal Executive. The Federal Executive will suggest to the Postmaster-General's Department that a committee be formed representing all frequency users involved in t.v., manufacturers of t.v. receivers, and other electrical equipment guilty of interference if this is possible.

Remember the Amateur's Code.

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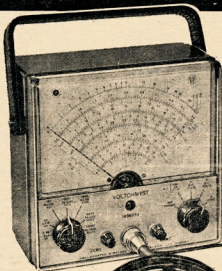
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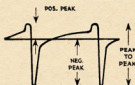


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I think, Ian, you would find that the phone section would be patronised by the present regular contest men and the c.w. section would be virtually eliminated. To me there seems to be no point in altering the present set-up.

—TOM TALBOT, VK6TH

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AMATEUR CALL SIGNS FOR MONTHS OF JULY, AUGUST NEW CALL SIGNS

VK— New South Wales
 2AP—A. P. Reynolds, 11 March St., Richmond.
 2GR—K. C. Mattel, 18 Albany St., Coffs Harbour.
 2KK—K. McDonald, No. 86(T) Wing, R.A.A.F., Richmond.
 2CX—V. E. Tierney, 6 Beach Rd., Edgcliff.
 2PO—E. A. Reeks, 7 Wheeler St., Carlton.
 2UF—W. N. Barnier, 6 Bonner Ave., Manly.
 2VV—R. M. Marsden, 43 Houston Rd., Kingsford.
 2AIF—2 Division Signal Regiment, Army Wireless, Training Depot, Park Rd., Paddington.
 2AIX—R. M. Harnett, C/o. O.T.C. Radio Station, Bringley.
 2AKB—J. A. Bonnington, 36 Elouara Rd., Avalon Beach.
 2ALS—B. R. Longworth, 14 Holdsworth Ave., Wallstonecroft.
 2AQM—J. T. Milton, Flat 1, Cr. Brown & Markham Sts., Adelaide.
 2AXB—E. Carruthers, "Headings", The Esplanade, Elizabeth; Postal: Box 1189, G.P.O., Sydney.
 2AWV—P. C. Way, Flat 2, 132 Forsyth St., Waggawagga.
 2AYZ—R. J. Spratt, 192 Yambill St., Griffith.
 2ZAH—H. P. McTeigue, 60 Clansville St., Mosman.
 2ZBC—B. P. Cleaves, 21 Binalong Rd., Pendle Hill.
 2ZBK—G. K. Batley, 15 Gazu Rd., West Ryde.
 2ZDD—V. Molesworth, 87 Jersey Rd., Woolahra.
 2ZHP—L. E. Jones, 7 Prospect St., Waverley.
 2ZKO—K. V. Outten, 2 Lily St., North Ryde.
 2ZLM—B. Olliver, 8 Edward St., Oatley.
 2ZLP—D. L. Price, 323 Rusden St., Armidale.
 2ZMH—M. E. Wilson, 71 Rainbow St., Kingsgrove.
 2ZOA—W. P. Harmon, 63 Mount St., Cooee.
 2ZOK—C. Oakley, 25 Grafton St., Goulburn.
 2ZPM—D. R. Stokes, 40 The Battlements, Casciag.
 2ZRI—R. J. Jurs, 53 Kangaroo St., Manly.
Victoria
 3QJ—J. H. Smith, 83 Bindi St., Glenroy.
 3QK—L. G. Williams, 16 Rossana Ave., Carnegie.
 3QV—F. Stanton, 155 Kibby Rd., East Kew.
 3APU—E. W. Burrell, Radio Aus., Shepparton.
 3APZ—N. M. Rado, Radio Aus., Shepparton.
 3AXE—G. L. Evans, 114 Nelson St., Nhili.
 3ZAX—R. Bennett, Skidders Rd., Warrigul.
 3ZCX—C. R. Enery, 3 Sydney Ave., Chadstone.
 3ZEG—J. Gray, 87 Doncaster St., North Balwyn.
 3ZID—R. A. Dobson, 8 Wood St., Mooroonpa.
 3ZJC—J. P. Chambers, 13 Keith St., Mordialloc.
Queensland
 4DS—D. R. Sneedon, Willis Island.
 4DT—D. Frey, 22 Rose St., Fairfield.
 4SI—A. H. Sandilands, Station: O.T.C. Radio Station, Thursday Island; Postal: C/o. Royal Hotel, Thursday Island.
 4TM—T. Meredith, 17 Davidson St., East Ipswich.
 4VK—S. W. Grimley, Station: North Rd., Beaumont; Postal: Charles St., Tweed Heads.
 4WA—W. J. Barker, 14 Welsh St., Windsor.
 4ZCG—B. W. Bartlett, 35 Woodville Place, Waverley.
 4ZCK—R. W. J. Hazell, Station: 70 Barton Rd., Hawthorne; Postal: C/o. Supervising Engineer, Radio Installations, G.P.O., Brisbane.
 4ZCR—L. L. Boyce, 41 Ryland St., Grovely.
 4ZFB—F. J. Beckett, 588 Flinders Pde., Brighton.
South Australia
 5AH—R. C. Richards, 11 Whinnam St., Prospect.
 5AJ—J. E. Davey, 36 Ackland Ave., Clarence.
 5AZ—B. E. Edwards, Wokurna.
 5BP—B. R. J. T. Pooley, 13 Spruance Rd., Elizabeth East.
 5FJ—F. R. Lashmar, 32 Fletcher Rd., Large Bay.
 5FS—J. L. Guthrie, Mareham Rd., Strathalbyn.
 5GQ—J. Hayward, 19 Phillip Highway, Elizabeth.
 5GU—H. M. Meyer, Radio Workshop, R.A.A.F., Melbourne.
 5JM—J. S. Danzie, Station: Knott St., Port Lincoln; Postal: P.O. Box 35, Port Lincoln.
 5JX—M. J. Dew, 23 Norman St., Undervale.
 5NZ—L. A. Lawson, 282 Anzac Highway, Plympton.

5OF—D. W. Avard, Mobile in South Australia (except Woomera area); Postal: C/o. De Havilland Aircraft Pty. Ltd., Box 1888, G.P.O., Adelaide.
 5SK—S. S. St. George, 59 Crozier Ave., Colonel Light Gardens.
 5WD—R. A. Warner, 4 South Esplanade, Glenelg.
 5ZW—M. H. Bone, 1 Dean Grove, Marryatville.
 5ZCH—B. J. V. Homon, 35 Langford Ter., Salisbury North.
 5ZCH—J. T. Hart, 16 Nunyah Ave., Parkholme.
 5ZCO—B. J. Southcott, 245 Beaumont Rd., Beaumont.
 5ZCQ—G. M. Taylor, 16 Fairmont St., Black Forest.
 5ZCS—C. J. Purvis, 15 Main Ave., Frewville.
 5ZCT—M. R. Burford, 63 Belair Rd., Panchitto Park.
 5ZDW—B. M. McDonald, Base Squadron, R.A.A.F. Darwin.
 5ZEF—I. B. Fraser, Station: Russell Ter., Kilkeny; Postal: Box 280D, G.P.O., Adelaide.
Western Australia
 6RG—R. E. A. Grigson, 107 The Strand, Bedford Park.
Tasmania
 7AO—R. K. Emmett, 8 Haig St., Lenah Valley.
 7ZAR—A. J. J. Reynolds, St. George's Rectory, Battery Point.
Territory of Papua and New Guinea and Other Islands
 9MV—V. E. Mathew, Christmas Island, Indian Ocean.
 9TK—Rev. T. J. Keller, Catholic Mission, Kuru, New Ireland.
Antarctica
 0GB—I. G. Bird, Mawson.
 0IB—J. K. Black, Macquarie Island.
 0JM—N. M. Thomas, Macquarie Island.
 01T—J. D. Molle, Davis.
CHANGES OF ADDRESS
VK— New South Wales
 2DR—N. Wilde, 153 William St., Bathurst.
 2IN—R. C. Meadows, 2 Portesque St., Chiswick.
 2MK—A. A. Worthington, 34 Macella St., Kingsgrove.
 2QH—H. D. Howe, 50 McIntosh St., Gordon.
 2RR—K. T. Kell, 4 Pever St., Turramurra.
 2YM—R. Hancock, 15 Boundary Rd., Pennant Hills.
 2ZD—W. J. Leech, 39 Cliff Rd., Epping.
 2ZAF—A. J. Fisher, 2 R.A.R. Holworthy.
 2ZAR—E. J. Pickles, 611 Princes Highway, Kogarah.
 2ZCV—C. Mulcahy, 45 Louie St., Padstow.
 2ZDG—G. F. Griffiths, 5 Carrington Rd., Kempsey.
 2ZDO—D. Bailey, 76 Gordon St., Manly Vale.
 2ZEM—E. Morales, 229 Elmore St., Albany.
 2ZGE—A. A. Dowse, Pine Ave., East Ballina.
 2ZJM—A. H. Bull, 55 Koola Ave., Killara.
 2ZPA—P. F. Ashby, "White Cottage", 14 Bilkurra Ave., Newport Heights.
 2ZPN—C. Nash, 107 Wyandora Ave., Harbord.
 2ZAR—W. N. Short, 55 Auburn Rd., Auburn.
 2ZAT—M. M. Craig, 453 Coal Point, via Toronto.
 2ZAV—T. W. B. Jones, 25 Beach St., Blackhurst.
 2ZAX—G. M. McDonald, 9 Bell Ave., Lindfield.
 2ZCC—J. D. Clark, Station: Bond Ave., Cymes.
 2ZCL—R. F. Lopez, Married Quarters, No. 537 Lighthouse Pde., Holsworthy.
 2ZDS—W. A. Saggara, Flat 2, 8 Dundas St., Cooee.
 2ZEA—J. W. Ashley, Byng St., Holbrook.
 2ZJF—J. Jeffrey, Doyle Lane, Muswellbrook.
 2ZMB—R. O'Sullivan, 62 Kellet St., Kings Cross.
Victoria
 3GK—S. C. McLean, 204 Balacava Rd., Caulfield.
 3HW—A. N. Horwood, 45 Edmonds Ave., Ashburton.
 3JH—L. J. Richards, 1 Maria Ave., Nunawading.
 3JV—A. C. Knight, 1 Photinia St., Doveton.
 3KS—R. R. Prowse, 83 Brower Rd., Bentleigh.
 3KU—B. D. Clark, Station: F.M.G. Radio Receiving Station, High Park, Kilmore; Postal: P.O. Box 8, Kilmore.
 3MJ—W. L. Matters, 24 Walora Rd., Rosanna.
 3OD—D. Watson, 5 Carleion Court, Heidelberg.
 3VK—M. F. Spiller, 11 Harrison St., Ringwood.
 3AAM—H. E. Sengotta, 71 Burriand Rd., Caulfield.
 3AX—V. D. Bond, 11 McKenzie St., Colac.
 3ADG—G. W. Kidson, Rutland Ave., Mount Eliza.
 3ADR—A. R. Roy, Flat 3, 648 High St., Armadale.
 3AGE—G. E. Eam, 18 Crawley St., Warrnambool.
 3AGH—T. E. Page, 27 Nolan St., Niddrie.

3AHJ—R. J. Harrison, 304 Waterloo Rd., Glenroy.
 3AJW—A. W. White, 60 Ross St., Dandenong.
 3AJT/T—R. E. Jamu, C/o. H. E. Mason, 56 Lower Dandenong Rd., Braeside.
 3AMJ—L. L. McInnes, 7 Gwenda Ave., Blackburn.
 3APC—Moarabbin & District Radio Club, 17 College Grove, Black Rock.
 3AYZ—W. M. Zimmer, 18 East India Ave., Newnading.
 3AW—P. H. A. McClymont, 1 Everard Drive, Warrandyte.
 3ZFI—K. G. Bridger, 132 Nott St., Port Melbourne.
 3ZFK—D. J. Goss, 19 Fitzgibbon Crescent, Caulfield.
 3ZFT—R. C. Terrill, 6 Clematis Ave., Wendon.
 3ZGS—M. Subocz, 126 Hill Rd., North Balwyn.
Queensland
 4EP—E. J. Parow (Rev.), Borthwick St., North Ipswich.
 4FE—A. R. Burton, Nornanton.
 4TY—N. R. W. Tyas, Fitzroy St., Warwick.
 4UX—C. F. Singleton, 41 Parker St., Ayr.
 4VE—E. V. Avenell, 25 Fourth Ave., Sandgate.
 4XP—J. Thompson, Natural Bridge, via Nerang.
South Australia
 5AV—A. E. V. Molnuez, 7 Salrak Ave., Marion.
 5FG—B. A. Falk, 33 Forest Ave., Hawthorne.
 5KR—V. M. Reeves, 2 Leicester St., Parkside.
 5OZ—J. C. Steevens, 38 Gilberton.
 5PL—J. G. Porter, 21 Wangary Ave., Seaview Downs.
 5TX—G. P. Tuck, Lot 21, Balmoral Rd., Derham.
 5YQ—E. A. Charles, 41 Opey Ave., Hyde Park.
 5VQ—E. J. Goodridge, 45 Prospect Rd., Prospect.
 5ZCX—B. H. Wall, 224 Seaview Rd., Henley South.
Western Australia
 6AT—A. T. C. Hanson, The Esplanade, Esperance.
 6CJ—C. F. Jessee, 46 Purslove St., Mt. Hawthorn.
 6EA—A. C. Entwistle, Lot 94, Wangalla Way, Koonagamia.
 6FH—F. A. Hull, 17 Wald St., Claremont.
 6KH—W. C. Hobbs, 12 Bath St., Mosman Park.
 6KJ—B. H. Gates, Station: 5 Drew St., Mira Mar, Albany; Postal: C/o. Gates Radio Sales & Service, Peel Hwy., Albany.
Tasmania
 7DK—D. H. Kelly, C/o. Staff Quarters, Post-Inna.
Territory of Papua and New Guinea
 9GW—G. K. Williamson, Telegraph Office, Samarai.
CANCELLED CALL SIGNS
Australian Capital Territory
 1VV—R. M. Marsden.
New South Wales
 2GD—K. H. Hutton, 24-LA—L. A. Lawson; 2MF—C. M. King; 2PQ—T. Armstrong; 2XM—W. H. Marshall; 2YD—W. A. G. Pettit; 2AGU—H. C. Hutton; 2OL—A. S. G. Barker; 2AOW—W. N. Short; 2AGC—J. G. Guttridge; 2AYD—D. L. Evans; 2ZAW—P. Salinger.
Victoria
 3NS—J. E. De Custer, 3WW—W. E. Boswell; 3ADF—J. G. Du Faur; 3AIO—W. R. Ion; 3AUC—J. G. Clay; 3AML—R. E. A. Grigson; 3ANE—R. R. Longworth; 3ASJ—J. G. Cunningham; 3AVE—E. V. Avenell; 3AWL—L. L. Western; 3ZAP—P. Woodruff.
Queensland
 4AE—R.A.A.F. Radio Club; 4DE—B. R. J. T. Pooley; 4KN—C. F. Peddel; 4KR—C. E. Christensen; 4ZAB—T. E. Meredith.
South Australia
 5BM—A. R. Matthews; 5CL—L. A. Lock; 5ZAH—B. G. Henderson; 5ZAT—H. McTeigue; 5ZBU—M. H. Bone.
Western Australia
 6ZAI—A. J. McCarthy.
Tasmania
 7KM—K. G. McCracken.

EARLY COPY DATE

So that this magazine can be printed prior to the printers closing down for annual holidays, all copy for the January issue is required at P.O. Box 36, East Melbourne, C.2, by 1st December. Correspondents are reminded that the closing date for copy for other months is the 8th of the month preceding publication. Copy arriving after that date may not appear.

SWL

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Court,
Olympic Village, Heidelberg,
N.33, Victoria.

Following interesting items are from Don Grant.

Card Swappers.—Two more overseas listeners anxious to swap cards with other listeners are John Dacoutros, Silema, Malta; and Oscar Reyes, Carusen, No. 277 Vibora, Habana, Cuba. This card swapping is a very good way of getting to know more about the other fellow, and listening in other countries, but don't try sending your card through the Bureau, as the QSL Managers have enough to do now.

DX.—Don't waste a card on ELOK/MM as he won't QSL. ZD6DT, FB, FC, HI, HV, JL, NJ and RM are the only licenses ZD6s. Radio Moscow operates a DX session on the first Sunday of each month at 0500 and 0350 GMT, but no further details available as yet.

45TFJ will QSL 100 per cent. to all s.w.l. reports, provided that they are accurate, and would also appreciate reports comparing his signal to other 45TFJ—there are only four others on the island. His address is F/Sgt. Frank Johnstone, R.A.F. Katunayake, Ceylon. (Txn Monitor.)

Don't be dismayed if cards are lagging from CEBAB, he can't answer reports before December, and requests cards to go via the Bureau. Who is the smart guy signing GRGRT on Nun Island on April 1st. Seems he caught a few of the I.S.W.L. boys.

QJIB on 20 s.w.l. 1700 to 2350 GMT most evenings and at 2300 GMT on 40, wants reports and will QSL 100 per cent.

ZS8AIA wants reports on 20 Mc. and also is 100 per cent. QSL. QTH is George Eastland, Box 796, Springs, South Africa.

KSTQO, Clare Spencer, P.O. Box 583, Redwood City, Calif., would appreciate a card from any s.w.l. who hears her, as would her OM, K9TQN.

QSL Cards.—Frank's remarks re accurate reports draws attention to the very poor reports which are sent out by some s.w.l.s and many transmitting Amateurs. There seems to be a lot of worthless cards going out from the listeners, according to the remarks heard over the air, and seen in overseas radio magazines. Suggest a perusal of Eric Trebilcock's remarks on page 15 of the March 1959 "A.R." would be in order.

Awards.—By the time these notes are read, the VK2 Division will be compiling the information on the new VK SWL Award. At the moment it is still in the talking stage, but several ideas have been put on paper and it is hoped to have something original in the way of an award to offer the world-wide fraternity of s.w.l.s.

National Field Day.—I would like to add some words to those in Sept "A.R." but for the benefit of the listeners. In the past, listener sections have been rather poorly patronised, but we have ourselves to blame entirely. In 1959 there were six entries five having under 36 points. The year before it seemed as though Mac Billiard was the only entry. If we don't participate, we will find ourselves without an interest in the field day, and in this time of s.w.l. progress it would be a backward step. This is a contest which doesn't require a lot of thinking out beforehand, as does the R.D. Contest.

Images in Communication Receivers.—Many of us have image trouble in our receivers, particularly those chaps who have a certain brand set on offer in fair supply at the present moment. Would like to draw your attention to an article in Monitor, July 1959, on the subject. Anyone wanting a copy of this inexpensive wave trap can have it if they care to write to WIA-L3022.

Interstate Contest Challenge.—How about you chaps in VK3 challenging us VK2ites in the National Field Day?

NEW SOUTH WALES S.W.L. GROUP
Barry L2069 has been doing some DX on the broadcast band. Barry told me the other day that a station in VK9 near 950 Kc. on Saturday night 2355 hours EST has a programme in which they give away a lot of tickets to people living at a distance from the tx. Since they are paying on distances of 50 miles or so, Barry's QSL should win the lot. Good hunting, Barry.

Many of our members lent much of their gear for the W.I.A. display at the Chatswood Town Hall. It was held on Monday and Tuesday, 10th and 11th Aug., and was in connection with the Youth Festival Week of the Willoughby Council. Our thanks to all who helped.

Don L2022 reports that there is much good DX on 80 in the early morning. 40 at 6500 GkT is good when one can sift out the commercials.

It is nice to see the formation of a group in VK9. The best of luck to you over the other side of VK. Looks like we have some opposition in the contests. It would be nice to see some of the listeners in VK4 and VK7 form a group and enable us to have an Australian wide s.w.l. set-up. After all, many of tomorrow's Amateurs are today's s.w.l.s.

Still have not recovered from the R.D. Contest. Let's hope there were a few good scores. I have had many inquiries about the rules as published in June "A.R." The fact that both calls can be logged, if they are Interstate, has not been made clear enough. Many have said that the example log given appears to show that only the call sign that makes the call can be logged. I hope the matter is cleared up in the rules for next year.

AMATEUR STEREOPHONIC TRANSMISSION

During September, Chris VK3AXU, whilst in QSO with VK3AGV, VK3II and VK2HN, successfully transmitted his voice stereophonically via Amateur Radio. Reports on the experiment showed that whilst Chris moved about the shack, this effect was well reproduced at the receiving station.

Chris is wondering if Gordon, Lee, Herb, and himself are the first Amateurs in the world to participate in a stereophonic sound experiment via Amateur Radio.

Chris and Gordon set up their equipment specially for the experiment, whilst Lee and Herb listened in. Another achievement for the Victorian S.W. Zone!

USEFUL CHRISTMAS GIFTS

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MINIATURE SOLDERING INSTRUMENT

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PROTECT YOUR TRANSISTORS WITH ORYX

There is a danger of damage when soldering to transistor leads, due to A.C. leakage currents. The use of a low-voltage transformer supply, with earthed secondary is therefore recommended. Take care also that too much heat is not applied to flying leads. The ORYX iron, and a heat-sink such as heavy pliers gripping the lead between the contact point and the transistor, will ensure protection.

- Fast heating element, ready for operation in less than one minute.
- Exclusive design features resulting in universal acceptance of ORYX as the standard miniature soldering instrument.
- The ORYX long life element will outlast several bits which are of tight push-on fit.

Bit Dia.:	Volts	Watts	Nett Weight	Length	Recommended Use
Model 6 1/16" (Fixed)	6	6	0.25 oz.	6"	Electrical measuring instrument fine assemblies, hairsprings, R.F. pick-up and speech coils, hearing aid sub-assemblies, etc.
Model 6a 3/32" (Push-on)	6	6	0.25 oz.	6"	As for Model 6 (for extremely delicate work only).
Model 9 5/32" (Push-on)	6, 12, 24-27½	8.3	0.25 oz.	6"	Hearing Aids, Radio and TV Sub-assemblies, Coils, Electronic Instruments, Model Construction, Electro-Medical, etc.
Model 12 3/16" (Push-on)	6, 12, 24-27½	12	0.5 oz.	6.25"	Radio, Television, and Telecommunications assemblies.
Model 18 3/16" (Push-on)	6	18	0.75 oz.	7¼"	For heavier work, heat capacity equivalent to that of most 80 watt soldering irons.

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MSF3.5P

Amateur Radio, November, 1959

NOTES

FEDERAL

V.H.F. CENTURY AWARD

Quite a long time ago the Federal Council of the W.I.A. approved of the introduction of a V.H.f. Century Award (Certificate) to be issued to those who submitted proof by QSL cards of having made one hundred contacts on the v.h.f. bands.

Because of lack of finance the project has been "shelved" for some considerable time although initially a quantity of high quality certificate blanks were imported from the United States of America and are still in the possession of the Federal Executive.

At one stage members were called upon to submit a suitable design but no efforts were forthcoming. Since the new proposal is to continue with this project designs will be accepted. Anyone who would care to try their hand at designing a suitable certificate now has the chance. A fee of £3 will be paid for the design finally chosen. The lithograph design on the blank certificates is rose-red and a sample of this will be forwarded to anyone seriously interested in working out an appropriate v.h.f. design to be overprinted on the blanks. Please write and request a blank certificate to Mr. Straughair, Federal Executive, W.I.A., Box 2611W, G.P.O., Melbourne. In the event of a loss we might have to limit the number of blanks available for design purposes so be early.

When a design is completed it must be returned to Mr. Straughair who will submit it to the Executive. The design forwarded by any person will remain the property of the Institute. If any design not ultimately chosen for the V.h.f. award, a fee of £3 will be paid as a basic idea in part or in whole for any other Institute award, a fee of £3 will be paid to the designer, so please see that your name, club name and address is clearly printed on the back of your design. Multi-colour design will be acceptable although it is suggested that the design be commenced when designing if more than one or two colours are proposed. Don't hesitate—do it now!

I.T.U. GENEVA

Reports from the I.A.R.U. indicate that three of the principal officers of the I.T.U. Conference, elected during the first plenary session in August, are Amateurs.

Charles Eaton, VE3AC, is chairman; Juan Austell, LU9UL, is a vice-chairman; and Gerald Gross HBWIA (formerly WGGG), acting Secretary-General of I.T.U., is a secretary of the conference.

At a second plenary meeting in August, the I.A.R.U. was one of the 16 international groups admitted to the conference.

John Claaricco, G8CL, and Per-Anders Hennan, SM5ZD, represented the Union at the opening and for some weeks to come, however it is expected that they will be relieved later on by other representatives.

Secretary-General, J. L. assistant manager Hulton are "Industry Members" of the American delegation, and have been assigned to the delegation's allocations group, working with and for some weeks to come.

Early September the committee had completed preliminary examination of the spectrum below 4,000 Kc. and had commenced an initial exploration of proposals concerning the spectrum from 4 to 27.5 Mc.

CONTEST CALENDAR

Compiled by W.I.A. Fed. Contest Com.

"CQ" WORLD-WIDE:

CW—Last week-end Nov. '59.

R.S.G.B. 21/28 Mc. PHONE CONTEST:

Dates: 0700 hrs. Sat., Nov. 21, to 1900 hrs. Sun., Nov. 22, 1959.
Rules: See "A.R." October, 1959.

The chairman of committee 4, Gunnar Pedersen, of Denmark, noted in passing that the various proposals appeared to divide the delegations into two opposing camps—those who wished to leave untouched the present allocations table in the high frequency band, and those who wished to make additional space available for broadcasting, mostly at the expense of the fixed service.

TWO NEW MEMBERS ON FEDERAL EXECUTIVE

The Headquarters Division of the W.I.A. has endorsed the co-optation of two Federal Executive members of the new members, Mr. David Rankin, VK3QV, and Mr. Tom Straughair, VK3ZIT.

Mr. Rankin was formerly holder of the Limited A.O.C.P. and although his chief interest is in the v.h.f. field, he recently passed his Morse code to gain the full transmitting license. As an experienced v.h.f. amateur he will represent the v.h.f. groups on the Federal Executive and this representation will be the means by which matters raised by v.h.f. licensees all over the Commonwealth will be dealt with. V.h.f. licensees are therefore invited to raise any queries through their Division's Federal Council and Mr. Rankin will be pleased to present the problems to the Federal Executive and advise of any decisions reached.

The Institute has grown considerably over the past five years or so, and with its growth comes more work. To cope with this and catch up with work which of necessity has had to be left "undone," the Federal Executive is being re-organised so that the work is more equitably distributed. Mr. Rankin will take a little time, but it is envisaged that the results will eventually be well worthwhile. In this rearrangement Mr. Tom Straughair will be undertaking various outstanding projects and these will be notified to Federal Council and within these columns from time to time.

COMPOSITION OF FEDERAL EXECUTIVE

Federal Executive is composed of the under-mentioned members who carry out the various appointments within the Executive:

- President ————— Max Hull, VK3ZS
 - Vice-President ————— George Glover, VK3ZT
 - Asst. Sec./Bus. Officer, Bill Mitchell, VK3UM
 - Treasurer ————— Bob Boase, VK3AB
 - Publicity Officer ————— Den Burton, VK3AE
 - V.H.f. Officer ————— Tom Straughair, VK3QV
 - Project Officer ————— Tom Straughair, VK3ZIT
- George Glover also holds the appointment of emergency co-ordinator in addition to that of Vice-President.

CANCELLATION OF PRIVILEGES

In June last, A.R.R.L. received information that the Government of Ethiopia had cancelled all Amateur Radio licenses with the exception of one which is held by a member of the Royal Family.

JAPAN AMATEUR RADIO LEAGUE

This Society now has a membership of some 7,000, and became an incorporated society at its annual general meeting in April. Jun-ichi Kajii was elected chairman of the Board of Directors.

The meeting was addressed by the President of the Japanese Red Cross who raised the role played by JAs in rescue work in disasters and citations were given to those who made outstanding contributions to Amateur activities.

MARITIME MOBILE

Liberian Radio Service has granted Maritime Mobile privileges to Amateurs aboard Liberian ships. This concession was obtained by the Union Schweiz Kurzwellen-Amateur.

FEDERAL AWARDS

KERMADEC ISLAND

Credit will now be given for contacts with ZLIAHZ on Kermadec Island. Cross-band contacts will not be considered for credit purposes.

G. Weynlon, VK3XU, Manager.

NEW SOUTH WALES

The September general meeting of the N.S.W. Division was held at Science House, Gloucester St., Sydney, on 25th Sept. The meeting was well attended.

V.H.F. NOTES

At the time of going to press the v.h.f. notes from Frank O'Dwyer, VK3OF, had not arrived.

opened at 8 p.m., the President, Dave ZBO, presiding. Those present and visitors were present, namely, OH2MT, DL1S1, and Ted Kierulff. They were presented with a Call Book in commemoration of their visit to our meeting. The meeting was held at 21.00 hrs. and from 2HT, 2APQ and 2WS. Following the usual formalities, 20 new members were admitted to the Division, making a total membership of 1,169.

A letter from the P.M.G. Department was read, regarding the severe interference being caused by 22 and 23 Mc. Dave ZBO requested the co-operation of our members in identifying and locating the signal causing the QRM. Reports on this matter will be appreciated.

A report on the Slow Morse Transmissions was made. These transmissions are conducted at 23 Mc. on Sunday evenings at 7.30 p.m. under the call VK2AWL. We are pleased to have a roster of operators from all over the State to operate this service to our members, and by all reports received members are most pleased with the efforts of those taking part. Undoubtedly this will assist many of our Associates and Limited ticket holders to the full call.

The lecture for the evening was delivered in a very workmanlike manner by Bob Z2AR and dealt with v.h.f. and u.h.f. techniques. The material of this lecture and the apparently well-attended supply of questions and answers, the interest of the gathering and a goodly number of questions were posed at the lecturer. A number of questions of interest were asked on the motion of Z2R, who claimed that the v.h.f. bug had bitten after many years of activity, and we feel that as a result of such a lecture that many will follow in his path.

The Convention Minutes were then discussed and all were ratified with the exception of the item dealing with the proposed Convention at Eastwood, which had been suggested to deal with the report on the Geneva Convention.

The meeting finally closed to allow the usual adjournment for coffee and the ragchew which continued until 11.30 p.m.

We hear that Crie ZKO, of Coff's Harbour, is ill in hospital and we hope that he will be much recovered by the time this issue reaches members. No doubt at a time like this, Crie would be glad to hear from his many friends made over many years of activity. The best to you, old man, from all.

We are sorry to report the loss suffered by the late Mr. John Trehan, who passed away on 5/10/59. Mr. Trehan will be remembered by many of the older chaps as being an inspiration to all, and as would, by this means, like to thank you, Fred, a Past President of the Division, our deepest sympathy in his great loss.

7th SOUTH WEST ZONE CONVENTION

AT NARRANDERA

The Six Hour Day holiday week-end, Oct. 3-5, was the date of a very enjoyable Convention organised by members and their wives of the Narrandera Radio Club. Registrations exceeded the 100 mark. Readers may not be aware that the Narrandera Radio Club is composed of a number of Radio Amateurs, resident in the town, who are members of this Division.

The function was attended by Amateurs from all parts of the zone, Bob 3ML, Eric 3DY and Peg, and others from Sydney made the trip. The evening was most enjoyable and the Convention commenced with a dinner held in the C.W.A. Hall which was attended by the zone gathering, including children and children, who were amply catered for. An enjoyable programme followed consisting of an amateur hour and films, including one on the "Ladies of the Night." Supper was served—the ladies officiating.

Sunday was devoted to a field day and despite the threatening conditions, the programme was run to time. The "shorties" section was won by Ross 2PN, second prize was a draw between Stewart 2PL and Fred 2AJL. Hidden Tx Hunts were won by Bob 2ZHW and Lind-bergh 2ZWA, both of Wollumbi. The "longies" section was won by Eddie 1VP, of Canberra; Bob 2ZHW won second. Blind Fold Tx Hunt was won by Neil 2ZYL, of the KYL of 2RS won the ladies' section of the hunt.

HUNTER BRANCH

The September monthly meeting was well attended and a varied and interesting lecture was given by Frank 2FX, on various Television subjects on the rx side. Stuart 2ZDF was very helpful in his lecture, and had a Melbourne and two new members Ian Fyfe and Doug Dickson were welcomed into the fold as Associates. Frank promised to continue his lecture at a later date, a statement which was received with enthusiasm.

A couple of puzs for the red face department: What was the guy, south of here, who spoke into a dead mike for five minutes before he woke up to the fact that all mikes registered zero. Anyone visiting him should will now know. I was at a party where a lady brought a 40-watt amber bulb shining brightly. And we wonder who was it who for many months tried desperately to charge his battery until he discovered that a wire had come loose inside his charger.

Dieting is the latest craze with 2ZL, 2AXX and 2AQR, of course, the latter doesn't really need it.

Next general meeting of the Branch will be on Friday, November 14, at the usual place, but I doubt if there will be a social meeting at 2XT's as Bill should be on the high seas by then.

Annual Dinner and Field Day

The second post-war Dinner and Eighth Annual Field Day were held on Oct. 3-4, and despite the continual rain there was an excellent roll-up and a good time was had by all. Again it was gentlemen only and 62 were seated before a sumptuous repast. President Lionel 2CS welcomed the visitors.

Whilst there were quite a few old-timers there who were reared by the Old Man and did their teething on the Wouff Hong, the accentuation was on the younger generation, namely, 2HC, 2AXH, 2ZL and 2ZFP.

...VK2HC—Ray received his license in 1926 and was quickly among the DX, receiving the second certificate ever issued for W.A.C. phone. This was in 1930. Ray was beaten by one month by ON4UT. In 1931, Ray established the first VK2Z 20 mhz. phone with 2ZBQ and in the same year received the W.I.A. Certificate of Merit for being the first Amateur in the British Empire on phone. During 1930-31 Ray acted as official W.I.A. broadcast station.

VK2ZL—Bill's first license was in 1912 when as ODX, using a Siemens-Holtz 2-inch spark coil, he made such a mess of the ether that I believe the Russians jamming stations took over his gear. Due to many reasons, Bill was off the air until 1954, but has been active ever since. Bill was President of the Victorian Division in 1910 he was Foundation Secretary of the Wireless Institute of Australia and at one time was Federal Secretary and President. For a while he had the call sign of 2ZB and about five years ago, like all true Amateurs, the urge returned and he disturbed the ether under the call sign of 2AXH. Now retired, he spends most of his time on the air. One of the things I admire about Wal is that he is an Amateur in the strictest sense and if there is anything that he can make he will make it—not buy it. In fact he does more experimenting than any other chaps I know.

VK2ZP—Unfortunately I understand that Ernie would not be at the Dinner and have very little to relate except the fact that he is now exclusively on 10 m.c.s. God bless our wheel-chair warriors.

In proposing the toast to Amateur Radio and the W.I.A. to the Convention, the Secretary, Gordon Sutherland, for the sterling work he did in connection with the Convention and hoped that he would be able to keep on with the good work. In response, Dave 2EO said it was one of his proudest moments to be able to thank Ray for all the things he had done for the Institute which is the oldest in the world. What had been by Executive can only be done by all members assisting and we could only progress if we assist in promoting interest of the younger generation—the school-boy. Dave also

thanked Alan Fairhall and his colleagues for what they have done for Amateur Radio over the last few months.

The guest speaker, Alan Fairhall, VK2KB, spoke in English and in the manner in which he later 2WI and 2AVX in the manner in which they broadcast their opposition to the cuts in frequency. When he raised the matter of the amateur quickly and in the manner of the house, including Messrs. Griffiths and Jones who were present and who were present there. There is indication that the local option will not be exercised to make further reductions. Alan said that in his opinion the time had arrived when the control of radio-communications should be taken from the P.M.G. and vested in a commission as in the United States where the Amateur is treated as a citizen.

The field day on Sunday at Blackall's Park was a success and was well webbed feet. The 7 Mc. scramble was won by Jim 2PM with Ken 2MAN runner-up; these same two won the 144 Mc. hunt in the afternoon. The morning hunt was won by Bob 2ASZ with 2PM in second position. On the social side, Helen Cowan and Betty Hall won the ladies' pitch-coppy, the younger girls' went to Helen Sparker, while Jimmy Hall carried off the boys' prize. The hunt was won by the A.O.C. by Ted and Norm 2ALI. We must not forget to mention that the quiz was won by Secretary Gordon Sutherland which was a fitting gesture on the part of his club.

Did anyone see Les 2RJ and Stan 2ZD put up a Gibson-girl balloon for the scramble only to have it blown away from the top of the mast put up the kite, but the wind dropped and so did the kite!

HISTORY OF GRIFFITH RADIO CLUB

The first meeting was held on 21st October, 1959, when it was decided to form the Griffith Radio Club. The main function was to be, and still is, that assistance be given to prospective Radio amateurs to take the A.O.C. in the least.

The lectures were, for several years, given almost entirely by 2PL and it is to him that most prospective amateurs owe their knowledge of members who have obtained their tickets. Recently 2PL has been aided by 2AXD and 2ACS, and to others to a lesser extent.

It has been found that the lecturing programme has thrown a burden on the shoulders of the club which we have been able to obtain a course of papers prepared to assist prospective Amateurs from the N.S.W. Division. The club has been very active in this action as it is of great help to lecturers, enabling less experienced members to assist in this.

The club has its own club rooms and has available two transmitters and two receivers, and a complete set of test equipment. The meetings are held every Tuesday and as a variation to lectures, occasional film evenings are held when members' families can attend. The President, 2ZEC, has been very helpful in lending his projector for these film evenings. He is supported by 2ZCN, the present Secretary.

The club is proud of its record of being instrumental in obtaining its members so many A.O.C.P. licenses. The complete list of Griffith Hams, five of whom have left Griffith, are: 2ZL, 2ZB, 2ZC, 2ZD, 2ZE, 2ZF, 2ZG, 2ZH, 2ZJ, 2ZK, 2ZL, 2ZM, 2ZN, 2ZO, 2ZP, 2ZQ, 2ZR, 2ZS, 2ZT, 2ZU, 2ZV, 2ZW, 2ZX, 2ZY, 2ZZ, 2ZAA, 2ZAB, 2ZAC, 2ZAD, 2ZAE, 2ZAF, 2ZAG, 2ZAH, 2ZAI, 2ZAJ, 2ZAK, 2ZAL, 2ZAM, 2ZAN, 2ZAO, 2ZAP, 2ZAQ, 2ZAR, 2ZAS, 2ZAT, 2ZAU, 2ZAV, 2ZAW, 2ZAX, 2ZAY, 2ZAZ, 2ZBA, 2ZBB, 2ZBC, 2ZBD, 2ZBE, 2ZBF, 2ZBG, 2ZBH, 2ZBI, 2ZBJ, 2ZBK, 2ZBL, 2ZBM, 2ZBN, 2ZBO, 2ZBP, 2ZBQ, 2ZBR, 2ZBS, 2ZBT, 2ZBU, 2ZBV, 2ZBW, 2ZBX, 2ZBY, 2ZBZ, 2ZCA, 2ZCB, 2ZCC, 2ZCD, 2ZCE, 2ZCF, 2ZCG, 2ZCH, 2ZCI, 2ZCJ, 2ZCK, 2ZCL, 2ZCM, 2ZCN, 2ZCO, 2ZCP, 2ZCQ, 2ZCR, 2ZCS, 2ZCT, 2ZCU, 2ZCV, 2ZCW, 2ZCX, 2ZCY, 2ZCZ, 2ZDA, 2ZDB, 2ZDC, 2ZDD, 2ZDE, 2ZDF, 2ZDG, 2ZDH, 2ZDI, 2ZDJ, 2ZDK, 2ZDL, 2ZDM, 2ZDN, 2ZDO, 2ZDP, 2ZDQ, 2ZDR, 2ZDS, 2ZDT, 2ZDU, 2ZDV, 2ZDW, 2ZDX, 2ZDY, 2ZDZ, 2ZEA, 2ZEB, 2ZEC, 2ZED, 2ZEE, 2ZEF, 2ZEG, 2ZEH, 2ZEI, 2ZEJ, 2ZEK, 2ZEL, 2ZEM, 2ZEN, 2ZEO, 2ZEP, 2ZEQ, 2ZER, 2ZES, 2ZET, 2ZEU, 2ZEV, 2ZEW, 2ZEX, 2ZEY, 2ZEZ, 2ZFA, 2ZFB, 2ZFC, 2ZFD, 2ZFE, 2ZFF, 2ZFG, 2ZFH, 2ZFI, 2ZFJ, 2ZFK, 2ZFL, 2ZFM, 2ZFN, 2ZFO, 2ZFP, 2ZFQ, 2ZFR, 2ZFS, 2ZFT, 2ZFU, 2ZFV, 2ZFW, 2ZFX, 2ZFY, 2ZFZ, 2ZGA, 2ZGB, 2ZGC, 2ZGD, 2ZGE, 2ZGF, 2ZGG, 2ZGH, 2ZGI, 2ZGJ, 2ZGK, 2ZGL, 2ZGM, 2ZGN, 2ZGO, 2ZGP, 2ZGQ, 2ZGR, 2ZGS, 2ZGT, 2ZGU, 2ZGV, 2ZGW, 2ZGX, 2ZGY, 2ZGZ, 2ZHA, 2ZHB, 2ZHC, 2ZHD, 2ZHE, 2ZHF, 2ZHG, 2ZHI, 2ZHJ, 2ZHK, 2ZHL, 2ZHM, 2ZHN, 2ZHO, 2ZHP, 2ZHQ, 2ZHR, 2ZHS, 2ZHT, 2ZHU, 2ZHV, 2ZHW, 2ZHX, 2ZHY, 2ZHZ, 2ZIA, 2ZIB, 2ZIC, 2ZID, 2ZIE, 2ZIF, 2ZIG, 2ZIH, 2ZII, 2ZIJ, 2ZIK, 2ZIL, 2ZIM, 2ZIN, 2ZIO, 2ZIP, 2ZIQ, 2ZIR, 2ZIS, 2ZIT, 2ZIU, 2ZIV, 2ZIW, 2ZIX, 2ZIY, 2ZIZ, 2ZJA, 2ZJB, 2ZJC, 2ZJD, 2ZJE, 2ZJF, 2ZJG, 2ZJH, 2ZJI, 2ZJJ, 2ZJK, 2ZJL, 2ZJM, 2ZJN, 2ZJO, 2ZJP, 2ZJQ, 2ZJR, 2ZJS, 2ZJT, 2ZJU, 2ZJV, 2ZJW, 2ZJX, 2ZJY, 2ZJZ, 2ZKA, 2ZKB, 2ZKC, 2ZKD, 2ZKE, 2ZKF, 2ZKG, 2ZKH, 2ZKI, 2ZKJ, 2ZKK, 2ZKL, 2ZKM, 2ZKN, 2ZKO, 2ZKP, 2ZKQ, 2ZKR, 2ZKS, 2ZKT, 2ZKU, 2ZKV, 2ZKW, 2ZKX, 2ZKY, 2ZKZ, 2ZLA, 2ZLB, 2ZLC, 2ZLD, 2ZLE, 2ZLF, 2ZLG, 2ZLH, 2ZLI, 2ZLJ, 2ZLK, 2ZLL, 2ZLM, 2ZLN, 2ZLO, 2ZLP, 2ZLQ, 2ZLR, 2ZLS, 2ZLT, 2ZLU, 2ZLV, 2ZLW, 2ZLX, 2ZLY, 2ZLZ, 2ZMA, 2ZMB, 2ZMC, 2ZMD, 2ZME, 2ZMF, 2ZMG, 2ZMH, 2ZMI, 2ZMJ, 2ZMK, 2ZML, 2ZMN, 2ZMO, 2ZMP, 2ZMQ, 2ZMR, 2ZMS, 2ZMT, 2ZMU, 2ZMV, 2ZMW, 2ZMX, 2ZMY, 2MZ, 2ZNA, 2ZNB, 2ZNC, 2ZND, 2ZNE, 2ZNF, 2ZNG, 2ZNH, 2ZNI, 2ZNJ, 2ZNK, 2ZNL, 2ZNM, 2ZNN, 2ZNO, 2ZNP, 2ZNQ, 2ZNR, 2ZNS, 2ZNT, 2ZNU, 2ZNV, 2ZNW, 2ZNX, 2ZNY, 2ZNZ, 2ZOA, 2ZOB, 2ZOC, 2ZOD, 2ZOE, 2ZOF, 2ZOG, 2ZOH, 2ZOI, 2ZOJ, 2ZOK, 2ZOL, 2ZOM, 2ZON, 2ZOO, 2ZOP, 2ZOQ, 2ZOR, 2ZOS, 2ZOT, 2ZOU, 2ZOV, 2ZOW, 2ZOX, 2ZOY, 2ZUZ, 2ZVA, 2ZVB, 2ZVC, 2ZVD, 2ZVE, 2ZVF, 2ZVG, 2ZVH, 2ZVI, 2ZVJ, 2ZVK, 2ZVL, 2ZVM, 2ZVN, 2ZVO, 2ZVP, 2ZVQ, 2ZVR, 2ZVS, 2ZVT, 2ZVU, 2ZVV, 2ZVW, 2ZVX, 2ZVY, 2ZVZ, 2ZWA, 2ZWB, 2ZWC, 2ZWD, 2ZWE, 2ZWF, 2ZWG, 2ZWH, 2ZWI, 2ZWJ, 2ZWK, 2ZWL, 2ZWM, 2ZWN, 2ZWO, 2ZWP, 2ZWQ, 2ZWR, 2ZWS, 2ZWT, 2ZWU, 2ZWV, 2ZWV, 2ZWX, 2ZWY, 2ZWZ, 2ZXA, 2ZXB, 2ZXC, 2ZXD, 2ZXE, 2ZXF, 2ZYG, 2ZYH, 2ZYI, 2ZYJ, 2ZYK, 2ZYL, 2ZYM, 2ZYN, 2ZYO, 2ZYP, 2ZYQ, 2ZYR, 2ZYS, 2ZYT, 2ZYU, 2ZYV, 2ZYW, 2ZYZ, 2ZZA, 2ZZB, 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2ZFM, 2ZFN, 2ZFO, 2ZFP, 2ZFQ, 2ZFR, 2ZFS, 2ZFT, 2ZFU, 2ZFV, 2ZFW, 2ZFX, 2ZFY, 2ZFZ, 2ZGA, 2ZGB, 2ZGC, 2ZGD, 2ZGE, 2ZGF, 2ZGG, 2ZGH, 2ZGI, 2ZGJ, 2ZGK, 2ZGL, 2ZGM, 2ZGN, 2ZGO, 2ZGP, 2ZGQ, 2ZGR, 2ZGS, 2ZGT, 2ZGU, 2ZGV, 2ZGW, 2ZGX, 2ZGY, 2ZGZ, 2ZHA, 2ZHB, 2ZHC, 2ZHD, 2ZHE, 2ZHF, 2ZHG, 2ZHI, 2ZHJ, 2ZHK, 2ZHL, 2ZHM, 2ZHN, 2ZHO, 2ZHP, 2ZHQ, 2ZHR, 2ZHS, 2ZHT, 2ZHU, 2ZHV, 2ZHW, 2ZHX, 2ZHY, 2ZHZ, 2ZIA, 2ZIB, 2ZIC, 2ZID, 2ZIE, 2ZIF, 2ZIG, 2ZIH, 2ZII, 2ZIJ, 2ZIK, 2ZIL, 2ZIM, 2ZIN, 2ZIO, 2ZIP, 2ZIQ, 2ZIR, 2ZIS, 2ZIT, 2ZIU, 2ZIV, 2ZIW, 2ZIX, 2ZIY, 2ZIZ, 2ZJA, 2ZJB, 2ZJC, 2ZJD, 2ZJE, 2ZJF, 2ZJG, 2ZJH, 2ZJI, 2ZJJ, 2ZJK, 2ZJL, 2ZJM, 2ZJN, 2ZJO, 2ZJP, 2ZJQ, 2ZJR, 2ZJS, 2ZJT, 2ZJU, 2ZJV, 2ZJW, 2ZJX, 2ZJY, 2ZJZ, 2ZKA, 2ZKB, 2ZKC, 2ZKD, 2ZKE, 2ZKF, 2ZKG, 2ZKH, 2ZKI, 2ZKJ, 2ZKL, 2ZKM, 2ZKN, 2ZKO, 2ZKP, 2ZKQ, 2ZKR, 2ZKS, 2ZKT, 2ZKU, 2ZKV, 2ZKW, 2ZKX, 2ZKY, 2ZKZ, 2ZLA, 2ZLB, 2ZLC, 2ZLD, 2ZLE, 2ZLF, 2ZLG, 2ZLH, 2ZLI, 2ZLJ, 2ZLK, 2ZLL, 2ZLM, 2ZLN, 2ZLO, 2ZLP, 2ZLQ, 2ZLR, 2ZLS, 2ZLT, 2ZLU, 2ZLV, 2ZLW, 2ZLX, 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2ZZL, 2ZZM, 2ZZN, 2ZZO, 2ZZP, 2ZZQ, 2ZZR, 2ZZS, 2ZZT, 2ZZU, 2ZZV, 2ZZW, 2ZZX, 2ZZY, 2ZZZ, 2ZAA, 2ZAB, 2ZAC, 2ZAD, 2ZAE, 2ZAF, 2ZAG, 2ZAH, 2ZAI, 2ZAJ, 2ZAK, 2ZAL, 2ZAM, 2ZAN, 2ZAO, 2ZAP, 2ZAQ, 2ZAR, 2ZAS, 2ZAT, 2ZAU, 2ZAV, 2ZAW, 2ZAX, 2ZAY, 2ZAZ, 2ZBA, 2ZBB, 2ZBC, 2ZBD, 2ZBE, 2ZBF, 2ZBG, 2ZBH, 2ZBI, 2ZBJ, 2ZBK, 2ZBL, 2ZBM, 2ZBN, 2ZBO, 2ZBP, 2ZBQ, 2ZBR, 2ZBS, 2ZBT, 2ZBU, 2ZBV, 2ZBW, 2ZBX, 2ZBY, 2ZBZ, 2ZCA, 2ZCB, 2ZCC, 2ZCD, 2ZCE, 2ZCF, 2ZCG, 2ZCH, 2ZCI, 2ZCJ, 2ZCK, 2ZCL, 2ZCM, 2ZCN, 2ZCO, 2ZCP, 2ZCQ, 2ZCR, 2ZCS, 2ZCT, 2ZCU, 2ZCV, 2ZCW, 2ZCX, 2ZCY, 2ZCZ, 2ZDA, 2ZDB, 2ZDC, 2ZDD, 2ZDE, 2ZDF, 2ZDG, 2ZDH, 2ZDI, 2ZDJ, 2ZDK, 2ZDL, 2ZDM, 2ZDN, 2ZDO, 2ZDP, 2ZDQ, 2ZDR, 2ZDS, 2ZDT, 2ZDU, 2ZDV, 2ZDW, 2ZDX, 2ZDY, 2ZDZ, 2ZEA, 2ZEB, 2ZEC, 2ZED, 2ZEE, 2ZEF, 2ZEG, 2ZEH, 2ZEI, 2ZEJ, 2ZEK, 2ZEL, 2ZEM, 2ZEN, 2ZEO, 2ZEP, 2ZEQ, 2ZER, 2ZES, 2ZET, 2ZEU, 2ZEV, 2ZEW, 2ZEX, 2ZFY, 2ZEZ, 2ZFA, 2ZFB, 2ZFC, 2ZFD, 2ZFE, 2ZFF, 2ZFG, 2ZFH, 2ZFI, 2ZFJ, 2ZFK, 2ZFL, 2ZFM, 2ZFN, 2ZFO, 2ZFP, 2ZFQ, 2ZFR, 2ZFS, 2ZFT, 2ZFU, 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2ZAD, 2ZAE, 2ZAF, 2ZAG, 2ZAH, 2ZAI, 2

BRISBANE AND DISTRICT

Well, it's good to be back on the job and I'll keep my note book handy to jot down notes. Cheers from 4PR.

Claude 4UX brought along two new associate members from Ayr and mentioned the fact that his classes were on the way with nine hopefuls, and the XYL Jess, I hope so. Claude will get used to the can opener when the coveted ticket arrives. Frank 4PF spoke of the local class of which 12 attend, including

Speaking of holidays, I will be away from QTH from 14th October to 14th December, visiting Perth (Oct. 21-31), Adelaide (Nov. 2-8), Melbourne (Nov. 9-13), Sydney (Nov. 14-22) and arrive in Brisbane on Nov. 23. Hope to see as many of the gang as possible.

Heard Joe SJO and David SDS in contact one Sunday recently and, boy, oh boy, has that David got a Scotch accent. If John SJW ever contacts him they will never separate them. I was that taken up with the accent that I could not switch off. I wish that I had one like it, I would get me a job on this new fangled idea t.v. and I bet I would get all the

Erg 5KU is still keen on 14 Mc. and his c.w. signals can be heard calling the DX at all odd times. John 5JA is keener on the one-eyed monster than on Amateur Radio at the moment, but as he is interested from a business angle we can possibly pardon this lapse from grace. Let's hope it won't last too long. Leo 5JG is chasing the DX on 14 Mc. and is fast

assuming the mantle of Stuart SMS with regard to DX. SMS has switched to the 14.7 Mc. band and can be heard calling the rare ones at odd times. Have a listen for my signal Stuart, quite a number of the local presentists thinking me that my signal is exceptionally rare!

Col 5CJ has a casual contact on 40 now and again, but is by no means as active as he used to be. Along with the meeting of the last time he was down here and renewed his acquaintance with the gang. Tom 5TW bobs up on 9 Mc. most of the time, but he is an angel that has slowed down a little on the air. He was going at top speed, however, when heard here in the R.D. Contest. How did you go Tom? Don 5ZIG along to the proceeding of steam to come on the air at the moment of writing, but if he doesn't hurry up we will have to alter our call to 5ZIG. He is as witty when I like. The South East gang appear to be pretty keen, if the attendance at their monthly meetings can be taken as a guide. A recent meeting took the form of an inspection of the new Mount Gambier autotelephone exchange, and under the guidance of 5JG the inspection was appreciated by all. 80 no number on the West Coast. Some of the month. Heard Wally 5DF on the SWI call-back last Sunday, as he simply said, "Hello and goodbye". Heard 5ZIG on 40 and 80. Was it? Ken 5AL heard on 7 Mc. this month with a good signal. He has not been on the air for some time, probably now since he left the North coast. Heard him occasionally on 3.5 Mc. He is now living in one of the Adelaide suburbs and should be heard consistently. Heard 5ZIG on 40 and 80. Heard John 5KX, the chairman of the VK5 W.C.E.N., has been heard on 40 and 80 at odd times over the month, but any other activity on the air remains to be seen.

John 5JC, assisted by his XYL Betty, is the father of a bonny bounding daughter this month, and all doing well. Some of the month, while as to whether or not John would recover, but as the medico said in an interview this week, "He had never lost a father, and John and Betty are both very anxious at the time, he was never really worried!" We Amateurs are made of stern stuff.

Earlier I made mention that Tom 5AQ was still overseas. He has now returned and made a lightning dash by sea, land and air, and bobbed up on 40 at the call-back by SWI after the session. I have made the necessary alterations on my part, and I am sure that worries me is that my palmy-walzy the editor will possibly get the idea that this explanation is only another device to escape the notice of the magazine. However, I think he knows me better than that.

There are old-timers and real old-timers in Amateur Radio, and I am sure that the old timer this month in the person of Lance Jones (5BQ). He was one of the original half a dozen or so pioneers in VK5 of our grand old hobby, and incidentally was one of the builders of the First and Best Broadcasting Station in VK, none other than 5DN, which I have the honour of being on the pay-sheet. Starting as an Amateur Station it has grown to be the power that it is in VK5 because of the enthusiasm of its technical staff, all Radio Amateurs and all proud of their own station, have possibly been of some assistance, ahem! Lance is looking fit and well and wishes to be remembered to all who may know him, although not active and naturally lost his call sign, he still leans toward Amateur Radio as a hobby.

Gould 5EF is heard occasionally on 40 at my location, but is apparently busy grinding grain. His brother is busy grinding his brains in an attempt to get his ticket and the exam on this, being read probably now knows whether it was worth while or not. Best of luck OM.

5VK3 has been called the "City of Culture," it has sometimes been called the "City of Churches," and once it was called by a disgruntled VK3 sub-editor named Pinot, the "City of Pubs." We in the VK3 have a simple code of ethics and standards of behaviour, and it sometimes seems strange to us when other countries have accepted standards. Bearing this in mind, imagine my horror and disgust the other night when I heard with my own ears a certain VK3 announce to all and sundry that since he had allowed some s.w.l.s. to take away a pile of chassis and junk, thus saving him the trouble and expense of disposing of them, he would be called. Now how low can one get, the jeering chuckle that ended his confession so unnerved me, that I have not yet brought myself to do this. I have a call book in order to unmask him to the world. I think that I am strong enough to check up now on a technician who turns the pages. VK3R—VK3RN—R. W. Higginbotham.

OBITUARY

ATHOL W. JOHNSON, VK7AJ

It is with the deepest regret that we record the passing of Athol W. Johnson, VK7AJ, on September 8, 1959, after a long illness.

Athol, who was one of Tasmania's most progressive and outstanding radio amateurs, began his career in 1947 and quickly gained recognition for his outstanding skill and technical knowledge. He was keenly interested in v.h.f. work and was one of the few Tasmanian Amateurs who worked consistently on 2 and 6 m. His car, which was originally equipped to work mobile on 6 m, was soon re-fitted with 3 m gear complete with a halo antenna and the many contacts he had with this equipment gave him much satisfaction. His main station comprised an all-band tx and rx which worked in conjunction with rotary beams on 20, 10, 6 and 2 m, a ground plane on 80 m, a sepp type antenna on 40 m, and a long wire for 1,000 ft. across the valley close to his home in Romilly St., South Hobart.

He was an exceptionally versatile man with many many interests. He was a highly skilled craftsman and his exceptionally well equipped workshop contained many machines and test equipment of his own design and construction.

Although confined to his bed for much of his time in recent years, he managed to keep in close touch with Amateur Radio via a number of correspondents. His articles outside the Amateur bands brought his reward when he was instrumental on Jan. 8, 1953, in bringing about the rescue of the luxury liner, the *Queen Mary*, which was in difficulties off Beecroft Head, N.S.W. with engine trouble and was in danger of drifting onto the rocks. His distress signals were received and he was immediately alerted the O.T.C. staff at Hobart with the result that the vessel and its crew were all saved.

He was an enthusiastic member of the Tasmanian Division of the Wireless Institute of Australia and took an active part in all its activities, being elected to the Executive Council for four years and was also v.h.f. officer and Federal Councillor. He gave many lectures and demonstrations and all were characterized by a thoroughness of preparation and were given in a clear and concise manner. The many practical tips given in a really useful and experienced were an outstanding feature.

As a man, Athol possessed a most likeable disposition with an infectious cheery and a humorous sense of humour. He was those who turned to him for assistance with their technical problems. One of his most outstanding qualities was the courageous fight which he put up during his long illness. His fortitude in this regard was one of those rare and wonderful examples of a dogged determination in the face of a relentless malady. His untimely passing was a severe blow to all who knew him. To his widow and daughter we extend our heartfelt sympathy in their sad bereavement.

R. W. Higginbotham, VK7AJ: Oh well, I suppose that there is always two sides to every question, and I don't think that any dustman should be given a bad press, and standards can be stressed too much, and after all, Editors must have some privileges not granted to us lesser mortals. Personally, I think it was a wonderful thought. The s.w.l.s. a gift and probably saved the dustman some hard work, and without doubt such a fine, and generous gesture. I am sure that the 3RN would only do the right thing as a natural reaction. PHEW!

TASMANIA

We extend our best wishes to Alex TAY, Chairman of the Federal Contest Committee, who has been on the sick list for some time now, a speedy recovery. Alex is the best of us, and his committee of helpers, has been very busy engaged in checking Remembrance Day logs, since about the middle of September. The 3RN is anxious that the Contest should soon be over, and our thanks are due to them for their considerable efforts on behalf of Amateurs generally. Incidentally, the 3RN is anxious to see the publication of the return of 67 contest logs out of the 68 stations which took part. Never before has the return of logs been so important a portion of the number of stations taking part.

At the time of writing, the phone section of the VK-ZL Contest is over, and I would say that conditions were as bad as they have ever been during a contest. Most of the 24 hours passed without the semblance of a DX signal. For only about two hours were signals audible and then only with considerable QSB and QRN.

Mobile VKS is now v.f.o. controlled and has a modulator in service. Snowy 7CH and yours truly must now be about the only c.w. men left now. Jim 7JO will be back on the air. Hobart, so our gain will certainly be Devonport's loss. Welcome to the big smooch, Jim.

Bob 7OM has been resident in ZL for most of September and the first half of October. We hope that all was well with Bob. Jack 7JL is again active on all bands, since the removal of the power noise about the end of September. Keith 7RX has a 12 m. in operation, and would appreciate any reports on its operation, particularly from a distance.

Stereo is now all the rage with the record connoisseur. Well, Myles 7JF will be able to show you how cabinets to house such fine equipment should be made, good work Myles. The time and weather for trying out your stereo rig will be soon. Myles 7JF and the W.C.E.N. net hope to have such an exercise either in November or December, so get your portable rigs ready chaps.

NORTH WESTERN ZONE

Time marches on. The most important item of interest to report this month is that about half a dozen of our associate members had a shot for the A.O.C.P., and I feel sure that everyone will wish them the best of luck. More QRM I suppose in the not too distant future. More participants for the R.D. Contest next year.

Our October meeting was held on the 6th and I regret to hear that very poor attendance indeed. With exam. over, for associates to be required to a much better attendance next month. We hope an eventual member in the person of Athol W. Johnson, who was elected the number up to thirteen. The meeting's business was disposed of, interspersed with several interesting and enlightening discussions which I think froned out several matters whilst others were left in abeyance pending further natural development. Some quite useful pieces of equipment were disposed of by auction.

I do believe we are losing Jim 7JO to the Southern end of the island. Myles 7JF sneaked down to Southport this way a short while back and Peter 7JF betook himself off to the Launceston area. I sincerely hope no more club members decide to leave us for a while at least, not until we have patched up our ranks once more.

Frank 7YH has got himself a really big power dynamometer and is presently working on means by which he can get himself some really high high-tension from it with the minimum output in db. Yours truly still hasn't done any work on the new rig, still deriving great enjoyment having quiet QSOs with 10 watts.

The zone net each Tuesday and the W.C.E.N. net are still functioning OK with the regular attendance. I am hoping for a few new members joining in, especially on the Tuesday night rally. It won't be long now before we start having a few again. I hope you will be there if you sorted out the d.f. gear once more.

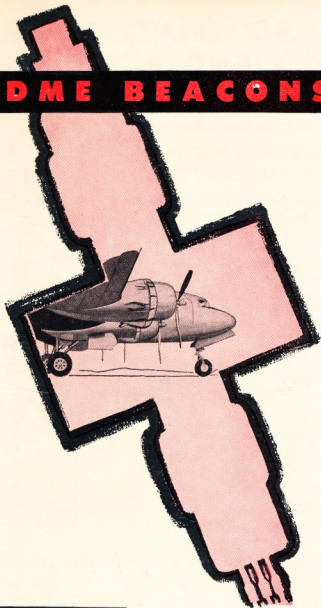
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Advertisements under this heading will only be accepted from persons who have declared in the possession of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement of acceptance. Advertisements on an average of six words a line. Dealers' advertisements not accepted in this column.

FOR SALE: MN26C Compass Revr. a/c. pwr. sply., £19. BC453 Q5er, £5. Command Trans., £4. Power Transf. 750v. aside, 250 mA., £5. Choke, 10H., 300 mA., £11. AP1, £9. Loran Indicator with 500 ft. cable, £9. Amatec Battery Revr. 12 tube tube, £2.10. 110V. pick-up, 3 heads, diamond 1L stylus, as new, £5. Valves: 832 £1, 829B £3, 807, etc. Pair selyns £2, meters, etc. D. Dunn, 3 Monamore St., Alphonine, Vic. Phone: JW 1253.

DME BEACONS



DME (Distance Measuring Equipment) is an Australian triumph in the field of civil aviation. Developed by AWA, and operated by the Department of Civil Aviation, it consists of ground beacon transmitters which emit coded pulses of rf power when interrogated by a signal from an aircraft. In the aircraft, measurement of the elapsed time between interrogation and reply is translated into a reading on a dial of the aircraft's precise distance from the beacon in question.

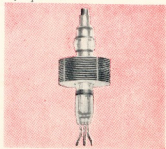
DME beacons are installed all over Australia, and contribute greatly to our high standard of airline navigation.

The pulses of rf power emitted by DME ground beacons are provided by the 5786 power triode, manufactured in our factory at Rydalmere, N.S.W. The 5786 is forced air cooled, and can continuously provide a kilowatt of rf power at one hundred and sixty megacycles. *It is worthy of consideration for dielectric heating equipment at high frequencies.*



**AMALGAMATED
WIRELESS
VALVE COMPANY
PTY. LTD.**

47 YORK ST., SYDNEY





GELOSO AMATEUR BAND FRONT END RECEIVER CONVERTER UNIT **ML209/FE**

(As used in the Geloso G209/R Receiver)

Geloso offers a complete front end kit from the R.F. stage to the I.F. input at a very attractive price.

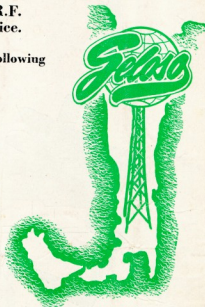
The ML209/FE Front End Converter Unit comprises the following essential parts:—

Cat. 2619	Amateur Band Coil Unit
Cat. 1649	Calibrated Dial Assembly complete
Cat. 2791	Variable Gang Condenser
Cat. 701/A	I.F. Output Transformer (4.6 Mc.)
Cat. 8475	Trimmer Condenser (Aerial)
Cat. 80173	Trimmer Condenser (Calibration)

This Kit provides outstanding technical attractions: -

1. Band coverages: 10, 11, 15, 20, 40 and 80 metres.
2. Ample bandspread on all bands.
3. 4.6 Mc. I.F. output.
4. Tube line-up:—

6BA6	R.F.
12AU7	Oscillator
6BE6	Mixer
6C4	Cathode Follower Output Tube.
5. Trimmer condenser for aerial circuit.
6. Oscillator trimmer condenser for use with a built-in 3.5 Mc. crystal marker.
7. Complete assembly instructions included with each kit.



AMATEUR NETT PRICE (less tubes) £24/10/0 plus sales tax 25%

★ ★
ML209/FE will shortly be available as a foundation kit including panel, chassis, cabinet, etc.,
and will also be obtainable fully wired and checked.
★ ★

AVAILABLE FROM ALL LEADING DISTRIBUTORS

Sole Australian Factory Representatives:

R. H. CUNNINGHAM PTY. LTD.

VIC.: 8 BROMHAM PLACE, RICHMOND, JB 1614
Q'LD.: 43 BOWEN STREET, BRISBANE, 2-3755

Cable: "Cunnig"

N.S.W.: 16 ANGAS ST., MEADOWBANK, WY 0316
S.A.: 14 STAMFORD COURT, ADELAIDE, 51-6392